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ABSTRACT

This study, conducted to determine which automated system would be the most appropriate to replicate or install at Clemson University to support the users of the library, screened 29 library automation systems to determine those most adaptable to Clemson's needs. In-depth comparisons were made with regard to functions available, features, start up and development costs, responsiveness and capability for linkage on the campus, and regional library support services for three systems--ALIS, DOBIS, and NOTIS. It is recommended that the NOTIS system be replicated at Clemson. The report includes tables and figures that illustrate the data considered. (Author/FM)

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TOTAL INTEGRATED LIBRARY INFORMATION SYSTEM PART 2

A Report on the Specific Design Phase:

Identification and Evaluation

R. W. Meyer

George Alexander

Ringgold Management Systems

ROBERT MULDROW COOPER LIBRARY

CLEMSON UNIVERSITY

JUN 22 1981

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EXECUTIVE SUMMARY

Current resources and facilities of the Robert Muldrow Cooper Library make it one of the important research institutions in the Southeast. The Library has a collection of over 13,000 subscriptions and 900,000 volumes. It provides the only readily available support for 11,000 students and nearly 1,000 faculty, however current services largely depend upon outdated manual information access systems. By replacing manual procedures with modern technology, great benefits will accrue to users of the Library.

This study was conducted in order to determine which automated system is the most appropriate to replicate or install at Clemson University to support the users of the Library. Twenty nine library automation systems were screened to determine those most adaptable to Clemson needs. In depth comparisons were made in regard to functions available, features, start up and development costs, responsiveness and capability for linkage on the campus and to regional library support services for three systems - ALIS, DOBIS, and NOTIS.

The evaluation of the three systems reveals that while each has desireable features the others lack, overall, the NOTIS system is the most complete and that NOTIS is the only system with adequate serials control. Total initial costs for ALIS, DOBIS and NOTIS respectively are $301,160, $517,496 and $344,539. Furthermore, development effort varies, but the NOTIS system involves the optimum mix of additional initial effort and system capability.

Therefore, it is recommended that Clemson University replicate the Northwestern NOTIS system. The next steps following this study must be to secure the necessary hardware, to allocate the necessary manpower,

and to implement an appropriate software licensing contract with Northwestern. Clemson University must replicate NOTIS on a stand alone IBM 4331 or equivalent computer with a communications link to the University's IBM 3033 system to provide the high level of service needed by faculty and students.

If the recommendation is accepted, the immediate tasks are to:

- prepare and implement an RFQ to acquire an IBM 4331 or equivalent computer system,
- effect a licensing agreement with Northwestern University for the NOTIS system,
- outline a plan for accomodating the Library workflow procedures to NOTIS,
- and compile the necessary bibliographic data to convert all serials records to machine readable form.

NOTICE

This report documents a decision making process involving the ALIS, DOBIS and NOTIS systems. It is specific only to the degree needed for Clemson to make a decision. Thus it does not constitute a general endorsement or criticism of any of the systems covered. However, the authors believe that the information contained about the various systems is accurate as of January 1981.

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I. Introduction

A. Purpose

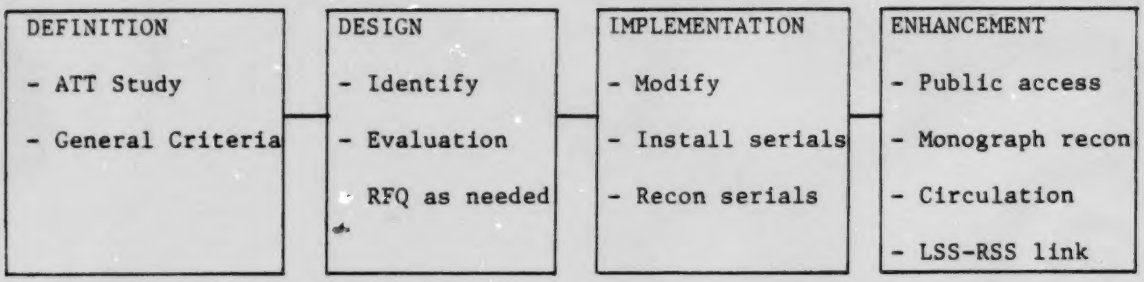
Current resources and facilities of Clemson's Library make it one of the most important research libraries in the Southeast and the only major source of information which is readily available to Clemson students and faculty. The Library has a mature collection of over 13,000 subscriptions and 900,000 volumes. Outstanding collections of journals, books and primary research materials have been developed in many areas, especially agriculture, natural and physical sciences, economics and technology.

The Library is primarily used by students, staff and faculty of Clemson University who are engaged in the instructional, research and service efforts of the institution. Although use of collections is substantial, access to current information needed is hampered by outdated and inadequate manual methods. Access to periodical materials is particularly cumbersome and is the source of considerable user frustration. Modern computer assisted procedures and techniques are needed to provide adequate service to Library users.

This study reviewed available automated library systems in order to select the most appropriate to replicate or install in the Clemson University Library as a Total Integrated Library Information System. This study comprises the second phase of efforts established to modernize the operations of Clemson Library. As shown in Figure 1, the initial phase comprised a general design and definition which was reported in an earlier document.[1] During that phase serials control was identified as the area most in need of automation efforts. This report covers the identification of systems which have potential, and the evaluation of those systems which merit serious consideration for use at Clemson.

FIGURE 1

Overview of Phasing of Clemson University Library Total Integrated Library Information System



I. B. Methodology and scope

The method used to conduct this phase was adapted from a report by Ringgold Management Systems on the British Columbia Library Network.[2] Help with developing of the specific methodology and conducting the evaluation was obtained by retaining Ringgold Management Systems in a consulting capacity.

The purpose of the methodology was to make a selection of the most appropriate system for Clemson, while keeping project costs to a minimum. To accomplish this, a staged approach was used. First, as many systems were identified for review as possible. Second, these systems were screened against a set of general system requirements that any selected system would be expected to meet. Third, the surviving systems were screened with respect to their general functional capabilities. Because the requirements were quite general, it was relatively easy to determine whether the systems met them. In some cases, however, more information was gathered in order to determine whether they had the general capabilities wanted. Fourth, those systems which passed through this initial screening were then subjected to a deeper analysis based upon a features comparison and a hardware/software comparison.

The features comparison was made on the basis of answers to specific, weighted questions to which individual points were applied. The hardware/software comparison was made for the purpose of gathering information relevant to determining the cost of implementing a system. The hardware/software comparison was also made to determine as well as possible, the responsiveness of each system. The intention was for the system receiving the most points on the basis of features to receive the recommendation, provided that cost

and responsiveness were within reasonable range as determined in the general design phase report. Furthermore, due to cost considerations the intention was to conduct the analysis without incurring the expense of benchmark testing. Instead an attempt was made to determine the responsiveness of each system by looking at the number of file accesses and/or screens involved in various kinds of functional transactions. One element of the comparison which was quite important in the final evaluation of the candidate systems was the identification of those features of each system which were missing but which were critical to successful operation for Clemson. Those features were listed and then, in order to attempt to evaluate the systems on a comparable basis, an estimate was made of the amount of effort and cost that would be required to introduce the missing critical features into each system. It should be noted, however, that the attempt was not made to make each of the systems fully functionally identical, but the concern was with critical features only.

In summary, the scope of the study was to:

- identify available automated systems and screen them against a set of general requirements;
- produce a comparative feature analysis of at least three operating integrated systems;
- conduct a hardware/software and development comparison relevant to determining the basic cost of each system.

The study was restricted by:

- avoiding batch oriented systems;
- avoiding total in-house, independent development of a system.

The expected result of this work was to:

- produce an outline plan for implementing the selected system;
- provide a cost projection for the implementation and operation of the selected system.

The study was conducted by R. W. Meyer, Associate Director of Libraries, and George Alexander, Director of Clemson's Division of Administrative Programming Services with the assistance of Ringgold Management Systems.

I. C. Summary Results

Twenty nine potential systems or software packages were examined to determine the three systems best suited to Clemson's needs. ALIS, DOBIS/LIBIS and NOTIS surfaced as those with the best combination of features and reliability. The ALIS system which is a product of Data Phase, Inc, is basically an enhanced circulation system. The DOBIS/LIBIS system is a customer developed product of IBM Corporation. NOTIS is a bibliographic control system developed by Northwestern University.

An in depth comparison of ALIS, DOBIS and NOTIS was conducted to determine which would be best to use at Clemson. A comparison of features available, in which an assignment of points was made within a rating system, revealed NOTIS as the most complete system for Clemson's needs, by a significant margin over the other two systems. The NOTIS system was also determined to be the only system with substantially complete and refined serials and acquisitions modules. A hardware cost comparison showed the DOBIS system to be much more expensive than the other two which in turn are comparable. ALIS was shown to be a little less expensive in overall dollar outlay, but a substantially more powerful machine normally would be available with either DOBIS or NOTIS.

I. D. Principal Recommendation

It is recommended that Clemson University replicate the NOTIS system of Northwestern University on an IBM 4331 or equivalent computer along with software providing a network link to the IBM 3033. While it may be possible to install the system on Clemson's main computer, a distributed installation will simplify the replication while having little effect on overall costs. This approach will relieve the necessity of installing a fourth teleprocessing monitor (CICS) on the main computer and it will also avoid the effort required to convert from DOS to OS.

The Library should begin to use NOTIS for acquisitions and serials control as soon as the system is replicated. This will require a significant but not overwhelming data base conversion effort for serials. It will also provide the means for developing the data base for an on-line public access catalog as acquisitions records are input. The data base should be maintained by upgrading records through cataloging. Further development should be accomplished by completing a retrospective shelf list conversion.

II. Context

A. Library environment and needs.

Over 500,000 visitors a year enter the Clemson Library. These visitors, many of whom are repeat student users, account for over 200,000 circulation transactions and 30,000 reference questions. In addition, Library staff provide services for an immediate environment which involves a campus geared to a multitude of instructional and research programs. In support of these programs, the Library has developed a collection of over 900,000 volumes and 13,390 serial titles.

Clemson University is one of twenty-six major research universities in the Southeast. It is located in a semi-isolated region about 100 to 150 miles from several other research libraries which are located in various directions from Clemson. Each of these libraries, including Clemson, is currently linked by terminal to OCLC through SOLINET facilities, for cataloging support and interlibrary loan. It is understood that SOLINET's Regional Support System (RSS) will provide a sophisticated bibliographic database with authority control mechanisms and will include holdings information to support interlibrary loan. It is further understood that the RSS will probably not provide a viable means to support Clemson's needs for serials control, circulation, local database for public access, and acquisitions functions. As a result these are the functions which are to be supported by a local integrated automation system.

While the library has available to it the University's basic computing resource which is an IBM 370/3033, currently, this computer is only used by the library to support a book card, batch circulation system. The needs for improved, computer supported systems derives in part from the need to

control cost, but also largely from critical needs to improve services. As the research and instructional efforts on the Clemson campus continue to grow and diversify, they are overwhelming manual library procedures to provide support for them. In addition, as demands have doubled, the costs of meeting needs have quadrupled. Some of the increase in costs is due to increased demand. However, the major component of cost increases comes from inflation in personnel costs. It should be noted that inflation in automation costs is substantially less than other parts of the economy. Furthermore, information needs have become so sophisticated and require such quick gratification that manual library procedures are often unable to satisfy them. As a result, the Library needs to implement an updated circulation system, an acquisitions system with fund control, a public access catalog to replace the card catalog, and a serials system to control the most important resources in the Library. For the best service to patrons it is important that computer based support for these functions be linked into an integrated system incorporating common or coordinated files as much as possible. Furthermore, the overall Clemson Library support system should interface as effectively as possible with other libraries through SOLINET.

II. B. Benefits expected.

Automated systems increase the quality of library services at the same time that they help to reduce the rise in unit costs of staffing. In many cases, services can be offered which would be practically impossible without automation. The following is a general discussion of the benefits expected. A more complete exposition is available in the general design report.[1]

The value of benefits and savings over the existing operation will offset the cost of acquisition of an integrated system. The Library's mission and function is to store information and to provide effective access to that information for its users. In carrying out its mission, Clemson Library has made use of new technology as it has become available, in order to improve on standard library practice. At all times it has relied on the professional skills of its librarians to provide its services. New technology is now available which can be instituted at Clemson to enhance the library's role by enriching user service. This can be accomplished through simplifying retrieval of information, while controlling library records with comprehensive, useable and efficient procedures, which the library staff can readily maintain. Furthermore, as data base searching increases in importance and use, an integrated system will allow inquiry of holdings relevent to information retrieval searches.

The chief benefits of an integrated library information system are:

- increased accessibility of library records by campus-wide access,
- inquiry capability for individual serial issue status,
- additional search term capability,
- a broader range of effectively controlled library resources,
- real time processing.

An online system may be queried from any point on campus that houses a CRT unit and will afford significant savings in time and effort for faculty and students who can use library data from remote terminal stations. A faculty member conducting research on a proposal topic should be able to determine from his own office or building whether the materials he needs are in the library's holdings and whether they are immediately available. Or, the availability of the most recent issue of a journal may be determined. A student should be able to search the library's collection from dormitories or classrooms around campus to identify items without having to make a frustrating or futile trip to the library.

An integrated system will retain traditional bibliographic access points and will expand retrieval approaches through author and title analytics, keyword access, and internationally recognized bibliographic numbers. Author and title analytics will be included in library records to provide a valuable approach to individual volumes that are cataloged collectively under a series name. On-line access has proven to be a powerful tool in information retrieval because library patrons often have incomplete or incorrect bibliographic information. The ability to search on truncated terms or other than the first word in a title helps to overcome this major problem. The system will also encompass an enlarged number of library resources by including records for all serials on campus. Currently, serials kept in some branch libraries are not cataloged. Furthermore, the full scope of monographic and serials holdings can be completed by adding records for government documents, microforms and presently uncontrolled items, as the system becomes established and fully operational.

An integrated system will mesh all information from the various operational units of the library into a coherent set of files many of which will

be updated on-line in real-time. The data base will include all ordering, bibliographic, holdings and status information that pertains to any item in the library, and will display updated information immediately as changes are made. Serial publications especially will recognize a significant advantage, since under the established operation the status of a serial item can be determined only by cumbersome and inefficient methods.

While it is very likely that an integrated system will reduce the unit costs of staff providing library service, it is unlikely that there will be significant absolute dollar savings to the university. This is because improved services are likely to produce substantial increases in demand which will outstrip improvements in costs. Therefore, the major return on investment in an integrated library system will come from enhanced services which will allow students and faculty to have remote and broader access to library holdings. That access will provide faculty with greater efficiency in the handling of information seeking efforts which, in turn, should result in research proposals which have a greater chance of success. For students, the improved access will result in exposure to a more diverse and expanded body of knowledge which will mean a better education.

III. Identification Analysis

A. Systems nominated for evaluation.

Twenty nine systems or automation programs were identified by the technical consultant to the study as having at least some potential for replication or installation by Clemson. These systems, listed in Table 1, were reviewed in relation to the general requirements of an integrated system at Clemson. The study team recognized that most of the nominated systems would be eliminated for such reasons as their incompleteness, their uniqueness to the specific environment in which they were used, their purchase price, or their overall unsuitability to the Clemson environment due to hardware or development problems. Even so, it was desireable to consider as many systems as possible in order to be reasonably well assured of reviewing any systems with high potential for Clemson. While it was not possible to be certain that a system superior to those reviewed does not exist, it was reassuring that, prior to retaining the consultant, Clemson staff were aware of all of the systems which eventually cleared the initial screening.

TABLE 1

Systems Nominated for Evaluation

Abbreviated Identifier	Supplier or System Name
ALIS	Data Phase Systems, Inc.
BYU	Brigham Young
Chicago	University of Chicago
CinnElec	Cincinnati Electronics
CLSI	CL Systems, Inc.
Denver	University of Denver
DOBIS	IBM Corporation
EBSCO	EBSCO, Inc.
Faxon	F. W. Faxon, Inc.
GEAC	GEAC Library System
ILS	National Library of Medicine (Lister Hill)
ISI	Institute for Scientific Information
LCS	Ohio State University Library Control System
Maggie	Pikes Peak Regional Library District (Maggies Place)
Marvel	University of Georgia
NOTIS	Northwestern University On-Line Library Information System
OCLC	OCLC, Inc.
Philsom	Washington University School of Medicine
Pitt	University of Pittsburgh
Recon/Stims	Informatics, Inc.
RIT	Rochester Institute of Technology
RLIN	Research Libraries Information Network
RSS	SOLINET Regional Support System
TRLN	Triangle Research Libraries Information Network
UCLA	UCLA BioMedical Library
VPI	Virginia Technological University (VPI)
UT Houston	University of Texas Health Science Center at Houston
UTLAS	University of Toronto Library Automation Systems
WLN	Washington Library Network

III. B. Screening with general requirements.

The twenty nine systems nominated for evaluation were initially screened against the general system requirements listed below. The results are shown in Table 2. Where further evaluation was not warranted, the number of the requirement which the system failed to meet is indicated in the last column of Table 2.

1. The system must be either currently operating on IBM 370 or compatible equipment in a programming language commonly supported by IBM; or alternatively it may operate on other equipment if the system is stand-alone and software/hardware maintenance and enhancements are completely supported by the vendor.
2. The system must be either commercially available and operational; or alternatively, if noncommercially available it must have been successfully replicated. If neither alternative holds, an unreplicated system may be considered on the basis of a clearly stated policy on support.
3. The system must be operating with at least two of the following four functional areas presently operational: serials control; acquisitions; circulation; and cataloging.
4. The system must be operational and supported in North America.
5. The source code and requisite compiler for the source code for the system would be made available to Clemson.

Subsequent to the initial screen against these constraints, eight systems remained for further screening against key features which are listed in Table 3. Detailed data on these and several other systems are recorded in Appendix B.

TABLE 2

Summary of Screening of Nominated Systems

Identifier	Equipment Used	Vendor Supported	Replicated	Operational Functions				North Amer.	Source Code Avail	Further Evaluation
				Ser	Acq	Cat	Circ			
(1)			(2)	(3)				(4)	(5)	
ALIS	Data Gen'l	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
BYU	IBM-4331	No	No	Yes	No	No	No	Yes	Yes	Nc-2,3
Chicago	IBM-370		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CinnElec	Univac/Var	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
CLSI	PDP-11	Yes	Yes	No	No	No	Yes	Yes	Yes	No-3
Denver	Burroughs	No	No	Yes	Yes	No	Yes	Yes	Yes	No-1,2
DOBIS	IBM 370		Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
EBSCO	N/A	Yes	No	Yes	No	No	No	Yes	No	No-2,3,5
Faxon	N/A	Yes	No	Yes	No	No	No	Yes	No	No-2,3,5
GEAC	CEAC	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
ILS	PDP-11	N/A	No	Yes	No	No	Yes	Yes	n/a	No-2
ISI	IBM-370		No	Yes	No	No	Yes	Yes	n/a	No-2,3
LCS	IBM-370		Yes	No	No	No	Yes	Yes	Yes	No-3
Maggie	PDP-11	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No-2
Marvel	IBM-370		No	No	Yes	Yes	Yes	Yes	n/a	No-2
NOTIS	IBM-370		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OCLC	Sigma		No	Yes	No	Yes	No	Yes	n/a	No-2
Philsom	n/a	No	No	Yes	Yes	No	No	Yes	No	No-2
Pitt	PDP 10	n/a	N	No	Yes	No	Yes	Yes	Yes	No-2
Recon/Stims	Intel		No	Yes	Yes	Yes	Yes	Yes	n/a	No-2
RIT	Sigma	No	No							No-1,2
RLIN	IBM 370		No	No	No	Yes	No	Yes	?	No-2,3
RSS	Burroughs	No	No	No	Yes	Yes	No	Yes	No	No-2,5
TRLN	n/a		No	No	No	Yes	No	Yes	n/a	No-2,3
UCLA	IBM 370/3033		No	Yes	Yes	Yes	No	Yes	Yes	Yes
VPI	Hp/IBM	No	No	No	Yes	No	Yes	Yes	n/a	No-1,2
UT Houston	n/a		No	No	No	No	Yes	Yes	n/a	No-2
UTLAS	Sigma	n/a	No	No	No	Yes	No	Yes	Yes	No-2,3
WLN	Amdahl 470		Yes	No	Yes	Yes	No	Yes	Yes	Yes

TABLE 3

Key functional capabilities required for secondary screening of candidates.

1.0 System specific questions.

2.0 Brief description of system.

2.1 Is the system available for replication elsewhere?

3.0 Functions

3.1 Acquisitions

- 3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?
- 3.1.2 Does the subsystem provide for fund control?
- 3.1.3 Does the system include automatic duplicate checking?
- 3.1.4 Does the subsystem provide automatic claiming?
- 3.1.5 Does the subsystem manage its own vendor file or link to an external file?
- 3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?

3.2 Cataloging

- 3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?
- 3.2.2 How is authority control included?
- 3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?
- 3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?

3.3 Circulation

- 3.3.1 What is the status of the circulation subsystem?
- 3.3.2 Does the subsystem maintain a borrow file on-line?
- 3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?
- 3.3.4 Does the subsystem produce overdue notices automatically?
- 3.3.5 Does the subsystem accomodate reserve loans? How?
- 3.3.6 How does the subsystem accomodate hold requests?

3.4 Search

- 3.4.1 Does the system provide for public use terminals?
- 3.4.2 Has the public access facility been used in an actual library environment by patrons?
- 3.4.3 Does the system provide for author and title searching? Under which functions?

3.4.4 Does the system provide for subject search? Under which functions?
3.4.5 Does the system provide for searching by keywords? Describe briefly.

3.5 Serials

3.5.1 What is the status of the serials subsystem?
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancellation?
3.5.3 Does the subsystem provide for payment history for serials? To what extent?
3.5.4 Does the subsystem handle issue receipt; check-in?
3.5.5 Does the subsystem provide for claiming? Automatically?
3.5.6 Does the system provide for inventory control of individual pieces?
3.5.7 Does the subsystem handle binding? How?
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?

3.6 Integration

3.6.1 All subsystems linked together as an integrated system?
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled?

4.0 Hardware/Software

4.1 Describe briefly the hardware architecture.

4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?

4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.

4.4 What is the minimum equipment environment required to operate the system?

4.5 What is the minimum software cost to get system replication started?

4.6 Describe briefly the support provided for replication?

4.7 What program languages are utilized in the software?

4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?

4.9 Are functions handled mostly by on-line terminals?

The eight systems considered further include: ALIS, Chicago, Cinn Elec, DOBIS, GEAC, NOTIS, UCLA, and WLN. It should be noted that the University of Chicago systems fails the constraint on replication. However, on the basis of the consultant's recommendation it was given further consideration because it is well designed, operational and fully integrated. Five of the eight systems were eliminated after further review for various reasons as summarized in Table 4 and discussed below.

Chicago. The system, as noted earlier, failed the constraint of replication, but was considered further on the basis of advice of the study consultant. However, consideration of the system was discontinued when it was learned that Chicago is in the process of designing and implementing a replacement for their current system. Furthermore, their current system does not provide for serials check-in and detailed holdings.

Cincinnati Electronics. The system does not fully meet the requirements. Replication in the form of the first installation is only nominally complete and is limited to circulation. Acquisitions was designed and implemented at Duke University on IBM equipment and has been obtained by Cincinnati Electronics, but code conversion to run on Univac equipment is incomplete. Public access is under development and serials control is only in the planning stage.

GEAC. This system passed the screening survey better than any vendor product except ALIS. At this stage of the study it was determined to discontinue the evaluation of GEAC on the basis of three factors. One, acquisitions has not yet been released. Two, the system does not have serials control, subject access, or integrated MARC record capability. Three, there was no current installation nearby to use as a basis for further evaluation.

However, in the event that subsequent study determined that ALIS was superior to the other systems, a proposal from GEAC would certainly be requested also.

UCLA. This is an evolving, sophisticated bibliographic system with inventory control down to the specific serial issue level. Because of the current state of flux, and some management reluctance to be involved in a replication at this time, it was decided to discontinue consideration of this system.

WLN. Since the minimum software cost for this system is $250,000, it is not a viable possibility for an in-house operation for Clemson.

The screening process supported a general impression that there are three basic approaches to developing an integrated system for Clemson. The first approach is to acquire the existing software of an academic institution. That being the case, the leading candidate following the screen is the NOTIS system, and the next two best alternatives are UCLA's and Denver's systems. A major disadvantage to Denver, although it appears to be quite good, is that it operates in a shared environment which is foreign to Clemson experience. The second approach is to acquire the software of a vendor created to operate in the IBM 3033 environment. The leading candidate here is the DOBIS system with Informatics, Inc. in-house serials tracking system as a possible alternative. The third option is to acquire a vendor produced turn-key product. Cincinnati Electronics, Data Phase, and GEAC would, in this case, probably all be competitive.

Fortuitously, three candidates left for further evaluation cover the three options noted and also simultaneously provide the opportunity to test the above impression. The rest of this study evaluation considers the ALIS, DOBIS and NOTIS Systems.

TABLE 4

Summary of Reasons for Discontinuing Review

Chicago	No serials check-in or detailed holdings. Designing a replacement system.
Cincinnati Electronics	Only circulation operational. Acquisitions conversion incomplete. No serials control or public access.
GEAC	Acquisitions not released. No subject access or integrated MARC record capability. No serials control.
UCLA	Under continuing evaluation. Management reluctance to be involved in replication.
WLN	Software cost ($250,000) substantially greater than alternatives.

IV. Evaluation

The three systems which passed through the preliminary screening were subjected to an intensive comparative evaluation of their operating features, their hardware and software requirements, their further development requirements and the cost of implementing and operating them.

A. Analysis

1. Operating Features Comparison.

The features reviewed and points available for each feature are shown in Table 5. The points available for each feature were established by the Study Team on the basis of a subjective determination of the importance of each feature in relation to the others.

The underlying analytical model which is being used is a linear one. That is, the points which are assigned to each feature are added together in order to establish an overall score for the system. Thus, for example, if one system were to receive 5 points for feature "1" and 7 points for feature "2" and another system were to receive 7 points for "1" and 5 points for "2", the two systems would have the same total of 12 points.

In such a model the assumption is made that each of the points awarded are of equal weight and that they can be added together uniformly. Approximately the same model is used in most instructional situations in which course grades are given. That is, various tests, quizzes and papers are given different point totals to reflect their importance in relation to others. A person's performance on each is judged and a score given. An overall score is computed by adding together the individual scores, even though it is reasonably clear that understanding of a course is not a truly linear situation. Similarly, systems evaluation is not truly linear. Even

TABLE 5

Features Compared and Points Available for Each Feature

Features	Rating: Points Available	Percent of Total
Acquisitions: Types of materials for which purchases are handled; files and data elements; output products; fund accounting; receiving; check-in; binding control; access mechanisms; vendor performance analysis; duplicate record detection.	260	32.3%
Cataloging: Link with OCLC and SOLINET; authority control; batch output; labels, proof lists; Marc-2 capability; record building; summary and detailed holdings; access mechanisms.	84	10.4
Circulation: Compatibility with current book card circulation system; location information; light pen capability; statistics.	154	19.2
File structure: Record structure; ease of data input; file and index update practices; file interrelationships; reliability; linking.	160	19.9
Public access: Library user inquiry via CRT; type of searching available; holding accessability.	146	18.2
	804	100.0%

so, because of several reasons, the linear model is extremely useful when applied carefully. First, by increasing the number of items which are considered, the importance of the score given to any individual item is reduced. Second, one can determine the sensitivity by reviewing the scoring results to determine the amount and type of change that would be needed in the scoring before there would be a change in the preferred system. The larger or more unusual the changes needed, the more confident one can feel that the linear model reflects the relative ordering of the capabilities of the systems. Third, one should compare the results of the computation with one's own subjective reactions to the systems being compared. If the scores do not give top rating to the system that one feels to be superior, it is desirable to investigate more closely by asking several general questions. Why is the system with the highest rating not the one which is prefered? Perhaps the concern is cosmetic; perhaps it is an important characteristic that was overlooked. Have all of the important characteristics of the system been identified and included in the comparison? Do the relative weights of the major feature groups reflect their importance to the application? Is there extraneous material in the comparison that is unintentionally overemphasizing areas which are not really that important?

In carrying out this followup work, it is not meant to suggest that one should "adjust" the ratings until the system isolated is the one desired in the first place. No indeed, the point is to investigate the differences thoroughly until one is convinced that a fair assessment is being made. When this is done, it is possible that the ratings will be changed and the original system will receive top marks. However, more often than not, it is the subjective evaluation that will be changed. The reason for this is that in most cases, the subjective evaluations are made with quite limited

information about the alternatives. The much greater amount of information that is collected for a formal analysis usually reveals some surprises - capabilities which were assumed to be present which are not (and vice versa); capabilities which were assumed to be important which are not due to a different approach; and capabilities which were not originally considered which are important to successful operation. As a result, the importance of follow-up is to both improve the analysis and to become convinced of its adequacy. When this is done, it can be seen that any inherent problems with the underlying model are only of academic interest - the practical purposes of the model will have been met.

A detailed point distribution schedule is shown in Appendix A. The distribution was made by the study team. Approximately equal points reflecting nearly equal importance were applied to acquisitions, public access, circulation and file structure. Fewer points were applied to cataloging since complete support by an integrated system (including comprehensive authority control, for instance) is not mandatory; it is assumed that this functional area will be handled, at least partially, by use of the SOLINET Regional Support System.

Since the general design study pointed out the need to concentrate on serials control, numerous specific questions were included within the various functional areas, which relate to this form. Serials have been the most heavily used materials in the collection. In addition, nearly all the access and control problems experienced in the Library relate to serials. As a result, in the analysis of those features of an integrated system which would apply to monographs or serials, half the points were reserved for the monographic capability and half for serials. The heaviest concentration of points were thus allocated to serials access and control.

Each subsystem or feature area was analyzed by answering detailed questions developed for each. Answers were awarded full points when the subsystem in question fully met the requirements implied and when it was operational. For cases where a subsystem was designed and coded or in test mode, only half the points were awarded. In other cases, judgements were made on how well requirements were met. When a subsystem was nonexistent or clearly did not meet requirements, no points were awarded. Detailed questions and responses are shown in Appendices C through E.

2. Hardware/Software Comparison

The several criteria reviewed under the area of hardware and software are listed in Table 6. This portion of the analysis was made to determine whether a system chosen on the basis of available features reliably could be expected to be capable of installation. It is assumed that the features analysis would expose the system most desirable for replication or installation. Following that, the hardware/software analysis was expected to help guide the decision on which recommendation was appropriate. If, for instance, one system was determined to be the most desirable, but the operating cost or response time proved unacceptable, that system could be set aside. Furthermore, this analysis was made to gather the information necessary to determine the cost of implementation of the desired system. Detail questions and responses are shown in Appendices F through H.

Information for both features comparisons and hardware/software comparisons were gathered by personal and telephone interviews, by examination of documentation, and by hands on demonstrations of each system. In the case of ALIS and DOBIS, nearly complete documentation was obtained and

TABLE 6

Hardware/Software Comparison

Criterium

a. Hardware: Hardware configuration; maintenance; physical requirements; back-up; cost.

b. Software: Language; maintenance; enhancements; recoding; status.

c. Responsiveness: Operational response time; retrieval iterations.

d. Replication and documentation: Documentation; source code availability; migration from shared to stand-alone; files loading.

e. Operating costs: Annual cost; number of terminals; average transactions.

reviewed. Additional data on the DOBIS system was obtained from the Ringgold study for British Columbia and from analysis of the system by the University of Florida. Additional data on the NOTIS system was obtained by a site visit in which both systems analysts and the chief programmer were interviewed. The system was also thoroughly checked over by numerous queries at terminals, under actual working conditions, at various times of the day. A hands on demonstration of the DOBIS system was obtained under test file conditions at the IBM offices in Atlanta. ALIS demonstrations were arranged in Washington, DC at the ALA midwinter meeting and in Atlanta with the Atlanta Public Library, with a test file in the first case and a working file in the second case.

3. Development Requirements

By reviewing the results of the operating features and hardware/software comparison, the further development tasks that would be required to make the system reasonably comparable in meeting Clemson's needs were listed. It should be stressed that this development would not make the systems totally comparable; concern was for much more limited basic requirements. In determining the development that is required, a significant element is the establishment of compatibility with current operations, most particularly, circulation control and the use of OCLC/SOLINET and Clemson's 3033.

For each of the tasks identified, an estimate was made of the amount of direct development effort that would be required. This estimation was based upon past experience with development projects and an understanding of the structure of the systems being considered. Doubtless, some of the individual estimates may be in error. Even so, it is expected that since

there are so many estimates, that the errors will cancel out. In any event, an attempt was made to make the estimates with a consistent set of assumptions and so there should be no systematic bias toward one of the systems.

4. Costs of Implementation and Operation

With the information gathered to this point, the costs of setting up and implementing the alternative systems were estimated. To do this, the tasks of the implementation program were identified and the time and effort required for them was estimated. A staffing pattern was constructed with a development budget to cover this staffing that would be sufficient to achieve the desired results.

Operating costs were established by determining the level of maintenance support that would be required and the operating staff needed for the system. No efforts were made to estimate the effect of systems upon present staffing on the basis that the effects (after the additional development) would be similar and that this would not be a factor in system selection.

IV. B. Results

1. Operating features

A summary of points awarded is shown in Table 7. The NOTIS system is demonstrated to be the best from the standpoint of features by a margin of 12.8% over DOBIS and 17.6% over ALIS. Table 8 summarizes the principal differences of the three systems. Reviewing these point awards from the point of view of their sensitivity to a change in the rating of the systems, it becomes apparent that there are three key assumptions in the assignment of weights which cause NOTIS to be preferred: the emphasis upon serials control capability; the reduction in point assignment of 50% for any system which has been developed but is not presently being used operationally in a library; and the award of no points if a feature is not yet developed, whether it is in the process of being developed or development is committed.

Neither DOBIS nor ALIS have serials control and ALIS does not have an acquisitions module. The DOBIS acquisitions module has been tested, but not yet put into production, even at Leuven. Therefore, NOTIS should gain over the others in this area, and it does, but not overwhelmingly. This is because the system is incomplete. For instance, it does not provide for full online fund accounting or binding control. The biggest area for margin over the others is due to the fact that it has serials check-in capability and an actively used acquisitions module.

Further differences in point margins occur due to NOTIS having sacrificed some completeness in individual modules in favor of integration of the overall system and in behalf of full serials control. The NOTIS cataloging module loses ground to DOBIS because of its incomplete authority control. It loses

TABLE 7

Summary of Points Awarded for Features for Three Systems

	Points Available	ALIS	DOBIS	NOTIS
Acquisitions	260	9	90	212
Cataloging	84	53	61	60
Circulation	154	150	126	93
File Structure	160	144	108	131
Public Access	146	117	126	118
TOTALS	804	473	511	614
PERCENTAGE	100%	58.8%	63.6%	76.4%

TABLE 8

Summary of Principal Differences in Three Systems

	ALIS	DOBIS	NOTIS
	Capability Present?		
Serials Control			
check in	no	no	yes
binding	no	no	no
purchase/renewal	no	yes	yes
Acquisitions	no	not-operat.	yes
Fund Accounting	not serials	yes	partial
Authority Control	partial	partial	partial
Public Access	yes	yes	yes
subject access	yes	yes	no
Internal Linkage catalog to circ	yes	yes	no
External Linkage			
to OCLC terminals	yes	no	no
to circulation files	no	no	no
to circulation-book records	no	no	no
Circulation			
Reserve Room	yes	no	no
call # index	yes	yes	no
Reserve Room	yes	no	no
Minimize Screens by			
function	yes	no	yes

some ground on file structure to ALIS due to the rather cumbersome link from the bibliographic file to the circulation file. It loses ground to both in public access because of the lack of subject access.

Overall, the NOTIS system is the most complete and has the most features. On the basis of the features analysis it is the most promising candidate. This is especially strengthened when consideration is given to the fact that it is the only system with serials control.

2. Hardware/Software

Table 9 summarizes the results of the review of the hardware/software characteristics. While each of the systems has shortcomings, each also has at least one major strength that encourages special consideration.

The major strength of ALIS is that it is fully supported, so there is no requirement for special data processing skills by Clemson staff. Maintenance of the hardware and all software is provided completely by the vendor. Much of the software maintenance including diagnostics is handled by dial-up access from vendor headquarters to the user site. Even major releases of enhancements are loaded via dial-up access. Furthermore, modular development including the implementation of acquisitions and serials control requires no effort (except to express needs) and no additional cost on the part of users. In addition, the installation of the system is straightforward and should in-house initiated modifications become desirable, they are easy to handle. The system uses the Meditech Interpretive Information System (MIIS) which is an interpretive language providing its own data base manager and teleprocessing monitor.

TABLE 9

Summary of Selected Hardware and Software Characteristics

	ALIS	DOBIS	NOTIS
Hardware			
1.0 Configuration	Stand alone	either	either
1.1 Cost	least $	most $	
1.2 Network	no link	network	network
2.0 Maintenance	Vendor	Vendor	Vendor
3.0 Environment	Normal office	Normal office	Normal office
4.0 Backup	Diskette	?	?
5.0 Terminals	OCR wand	Bar code wand	IBM 3630
6.0 Min. cost	$229,240	$412,556	$254,669
7.0 Campus CRT's	No	CICS network	CICS network
Software			
1.0 Language	MIIS	PL/1	Assembly
2.0 Added	None	CICS + op. sys.	CICS + op. sys.
3.0 Programs	1200 (2K ea.)	na	150 source modules
4.0 Lines of code	na	na	500/source modules
5.0 Fully structured	no	na	no
6.0 Maintenance	Data Phase	User	User/Northwestern
7.0 Maintenance Staff	none	na	3.5
8.0 Dev. staff	none	na	included in 7.0
9.0 Clemson op. staff	1 + 3 backup	3	2 Clemson
10.0 Sources 8?	na	na	Yes
11.0 Credentials	Tech oriented LTA	Tech oriented LTA	No DP credentials
12.0 Specialized DP	none	none	none
13.0 More development planned	Serials checkin Public access Authority control	None announced	Public access Fund control Online authority
14.0 Cost	$55,000	$49,500+	$50,000+
15.0 Coding by Clemson needed	na (Serials?)	Reserve room Loan Serials checkin OCLC link	Book cards Link circ to bib Call # index OCLC #
Responsiveness			
1.0 Time	Acceptable file maint slow	Good	Good
2.0 Iterations			
2.1 Author-title	Worst case 4	4	Worst case 3
2.2 Call #, bib	2-4	4	Circ only 1
2.3 Call #, circ	Usually 2	6	1
2.4 Charge out	1	1	1
2.5 Serials checkin	na	na	1
2.6 Subject search	2-4	4	2-3
2.7 Acq receiving	na	?	1

Some of the system's strength can also be seen as weakness. The fact that system development depends on vendor effort puts the user at the mercy of vendor chosen priorities. Although it may cost no additional dollars to obtain serials control once it is developed, the vendor's priorities may mean a two or three year wait for its development. Such delay for this module could easily offset the potential advantage of dollars saved. Also, because the MIIS language requires all of the central processor it is unlikely that an effective two way link can be developed with Clemson's main computer and through it to the many terminals already in place on campus. Furthermore, since the system is mini-computer based, there are serious doubts that it is capable of being upgraded enough to guarantee good response and power when large files and varying activities are combined into a fully integrated system. This could be overcome by an installation using more sophisticated hardware such as TANDEM, at some additional expense.

By comparison with the other two systems, one of the strongest features of DOBIS is the language in which it is written, PL/1. This high level language is quite powerful and is thoroughly developed and tested, having been released by IBM some 15 years ago. In contrast to MIIS, PL/1 operates under a standard operating system and, therefore, non-PL/1 programs under such an operating system can share the system resources. In contrast to the assembly language used by NOTIS, PL/1 provides greater language support to the person developing the program code.

The DOBIS system comprises a curious situation of having a file structure which is both its major strength and the source of serious weaknesses. The file structure is completely inverted. The information comprising, for instance, a single bibliographic record is not located in one record but scattered around in various indexes and files all linked by a system of

pointers. This structure was apparently developed to provide for bibliographic integrity, for file security, to minimize record duplication, and to maximize disc utilization. The sacrifice resulting from this structure is a great increase in disk access effort, since records must be reassembled before display. In turn, this may lead to a need for hardware with a fast cycle rate and communication speed in order to keep response time down. Interestingly, part of the rationale for this approach has gone away since DOBIS was written, because disk storage costs have declined so dramatically.

Some additional weaknesses derive from the file structure chosen in DOBIS. First, it appears that an effective link with OCLC will depend on the ability to reformat OCLC records into the DMARC (DOBIS MARC) format and input these records past the authority control procedure. Second, although integrated, the system does not presently provide screens of all data which is used by a given module. As a result, successive screens must be viewed, which may tax the memory of many users. In practice, this means that in order to locate the fund accounting information relevant to a specific title two steps are required. A search by title will retrieve the bibliographic information. It is then necessary to bridge to the fund information, which can only be retrieved on a subsequent screen. This approach holds true in many other situations. Third, many search routines require excessive iterations. A bibliographic search from call number will require at least three iterations with command chaining and seven without.

An additional problem with DOBIS is based on the fact that it is a Customer Program Product. As such, little support during installation and maintenance is available unless special contract arrangements are made. Since a serials control module is unavailable this could easily be the most expensive system to enhance.

The strength of NOTIS derives from its completeness and from simple elegance based on years of refinement. The system does not lack any major module. Additionally, each module has been refined several times in order to take best advantage of the technology available and to replace tested but unworkable approaches.

The weaknesses of NOTIS result from the unavailability of certain features from each module. Circulation lacks reserve room capability, acquisition lacks complete on-line fund control, cataloging lacks authority control, and public access lacks subject access.

The programming language utilized for NOTIS is a source of both strength and weakness, also. All the programs are coded in assembly language. This has served to optimize operating efficiency and has made the system very responsive. However, this approach requires the availability of staff adept with and willing to use a cumbersome coding approach.

3. Development requirements.

Table 10 provides a summary list of essential development tasks required to bring each system up to full integrated system capability. The table indicates specific tasks required individually for each system with an estimate of person hours needed for each. Table 11 summarizes person hour totals and elapsed time required for each system. The person-hour figures apply only to Clemson direct staff involvement, thus excluding, for instance, Data Phase programming time required for ALIS acquisitions. The elapsed time total, however, includes efforts required outside Clemson. Therefore it is apparent that ALIS will require the least Clemson development effort, whereas NOTIS will involve the shortest elapsed time in development. Figures 2 through 4 provide bubble diagrams describing task dependency and critical paths for development tasks for each system.

TABLE 10

Essential Development Tasks*

	Clemson Staff Person-Hours			Elapsed Time Weeks
	ALIS	DOBIS	NOTIS	
Acquisitions				
1. Complete the present module development	yes -			26
2. Operational Checkout				
a. Testing	yes 120	yes 120		6
b. Debugging	yes -	yes 240		12
Serials Control				
3. Module Development				
a. Serials Ordering	yes -			12
b. Issue Holdings		yes 240		12
c. Serials Check-in	yes -	yes 240		12
d. Bindery - to go	yes -	yes 80		4
e. "instructions	yes -	yes 80	yes 80	4
4. Operational Checkout				
a. Testing	yes 120	yes 120	yes 20	(6, 6, 1)
b. Debugging	yes -	yes 240	yes 40	(12,12,20)
Cataloging				
5. OCLC terminal interface		yes 120	yes 120	6
6. OCLC-MARC to D-MARC		yes 60		3
Circulation				
7. Translate Present Clemson circ record to new	yes 60	yes 60	yes 40	3
8. Translate staff & student records to new	yes 80	yes 80	yes 80	4
Public Access				
9. Subject Searching			yes 240	12
10. Circulation Status & Holds from Catalog			yes 20	1
11. Link Authority Records with Bibliographic"			yes 120	4
General				
12. Necessary Management Reports		yes 40	yes 40	8

* These effort estimates reflect the direct effort of the Clemson staff only. As such, they do not include the necessary time that these staff must spend on non-direct activities, the overhead administrative time of Clemson staff, or any of the time spent by the other organizations; DataPhase, IBM, Northwestern University.

TABLE 11

Estimated Direct Development Effort Summary*

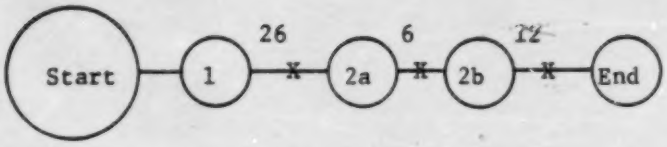
	ALIS	DOBIS	NOTIS
Acquisitions			
Direct Person-hours	120	360	-
Critical Path, weeks	44	18	-
Serials Control			
Direct Person-hours	120	1000	140
Critical Path, weeks	30	43	7
Cataloging			
Direct Person-hours	-	180	120
Critical Path, weeks	-	9	6
Circulation			
Direct Person-hours	140	140	120
Critical Path, weeks	4	4	4
Public Access			
Direct Person-hours	-	-	380
Critical Path, weeks	-	-	16
General			
Direct Person-hours	-	40	40
Critical Path, weeks	-	8	8
GRAND TOTAL			
Direct Person-hours	380	1720	800
Critical Path, weeks	44	42	16

* These effort estimates reflect the direct effort of the Clemson staff only. As such, they do not include the necessary time that these staff must spend on non-direct activities, the overhead administrative time of Clemson staff, or any of the time spent by the other organizations, DataPhase, IBM, Northwestern University.

FIGURE 2

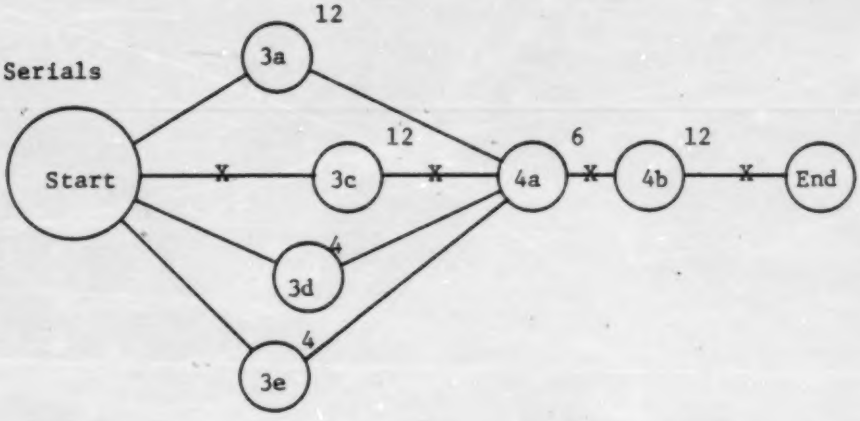
ALIS Development Task Dependency and Critical Path

Acquisitions



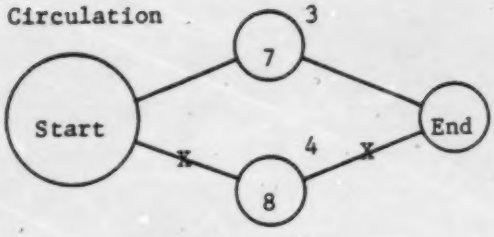
CDP-H: 120
CPW: 44

Serials



CDP-H: 120
CPW: 30

Circulation



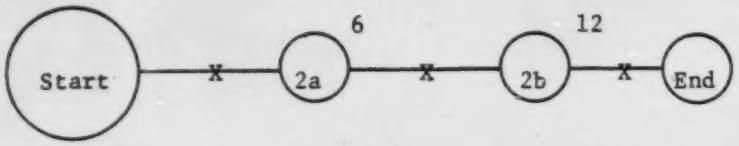
CDP-H: 140
CPW: 4

Critical Path (X)
CDP-H: Total Clemson Direct Person-Hours
CPW: Critical Path Weeks

FIGURE 3

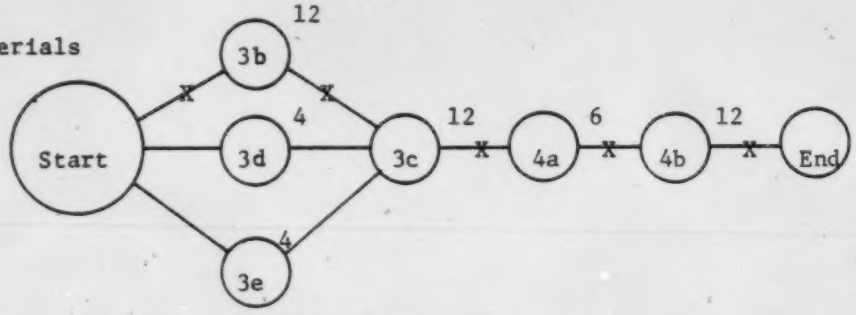
DOBIS Development Task Dependency and Critical Path

Acquisitions



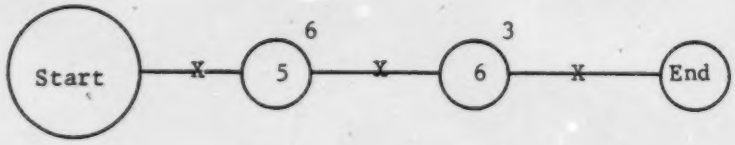
CDP-H: 360
CPW: 18

Serials



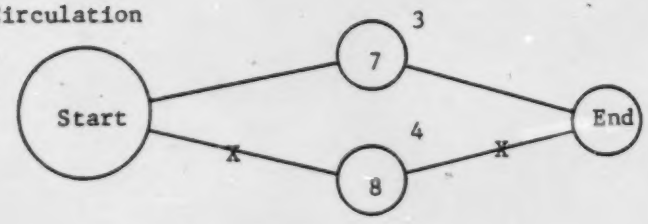
CDP-H: 1000
CPW: 42

Cataloging



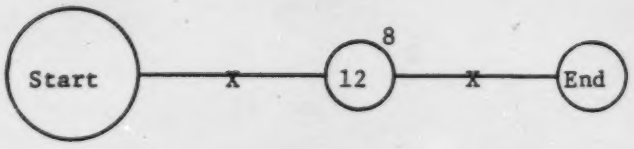
CDP-H: 180
CPW: 9

Circulation



CDP-H: 140
CPW: 4

General



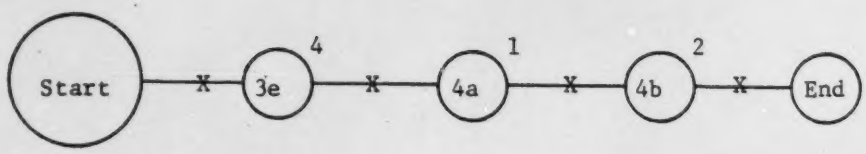
CDP-H: 40
COW: 8

Critical Path (X)
CDP-H: Total Clemson Development Person-Hours
CPW: Critical Path Weeks

FIGURE 4

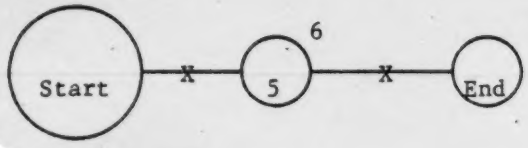
NOTIS Development Task Dependency and Critical Path

Serials



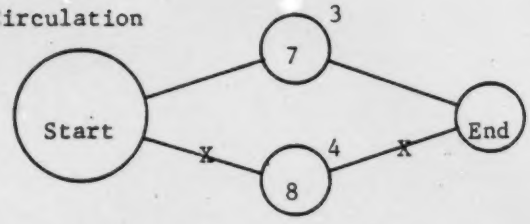
CDP-H: 140
CPW: 7

Cataloging



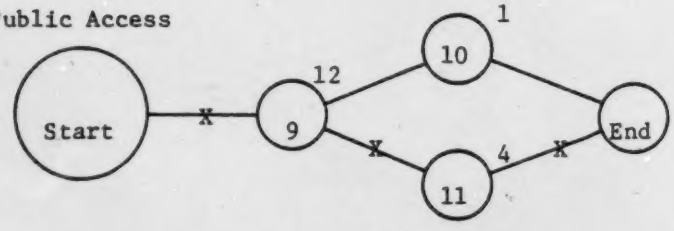
CDP-H: 120
CPW: 6

Circulation



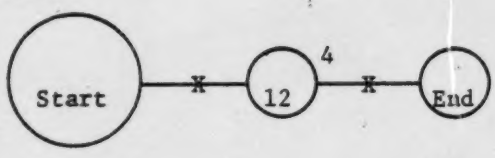
CDP-H: 120
CPW: 4

Public Access



CDP-H: 380
CPW: 16

General



CDP-H: 40
CPW: 8

Critical Path (X)
CDP-H: Total Clemson Development Person-Hours
CPW: Critical Path Weeks

Two significant areas for development required with each system involve compatibility with current operations in cataloging and circulation. Although a detailed analysis of impact of each system on current workflow has not been made, the survey does reveal the major considerations relevant to accomodating each system. In addition, an assessment of the likely impact on the current automated circulation system and the OCLC/SOLINET link can be made readily from the data gathered.

The Clemson Library currently uses a book card batch circulation system. Each circulating item in the collection is identified by a standard Hollerith coded card. The circulation record punched in the card is a fixed field record which is described in Figure 5. Each of the systems evaluated would have a different impact on this system.

The ALIS System is fundamentally a circulation system based on a file of sophisticated bibliographic records which is linked to a transaction file containing records for items in circulation. This circulation file essentially consists of a piece id number combined with a borrower id number with pointers to the bibliographic and borrower files. This approach requires piece identification, not with a book card but a machine readable label. The implications for Clemson if this system were to be adopted means the creation of a bibliographic file representing the entire holdings of the Library. It also mandates physical relabeling with bar or OCR labels for each item in the collection. The creation of the data base and labeling could take place as an initial implementation effort or an on-the-fly effort as items are circulated. Either approach is substantial.

The DOBIS system would impact on Clemson current circulation system in a similar way to ALIS. It would require substantially the same effort to implement.

FIGURE 5

Clemson Book Card Circulation Record

Column	Description
1	Start of record indicator (always a 1)
2-8	Accession id number (always numeric)
9-27	Call number
28-30	Volume
31-34	Data
35-64	Title (First 30 characters of title)
65	End of record indicator (hexidecimal 4C)

The NOTIS system operates on the basis of a circulation approach using book card id's and an exception file. As a result, the circulation system can operate independent of the creation of a data base. An item is recorded as in circulation by the existence of a book card record in the exception file. No link is required, although it is desireable, to the bibliographic file. In order to determine if an item is in circulation using NOTIS, it is necessary to search the bibliographic file, record the call number, and then search the circulation file. Although this is somewhat cumbersome (current reprogramming is underway at Northwestern to achieve a lateral link) it has the advantage to Clemson in that very little initial data base creation effort is required in order to implement the system.

In some fashion each of the systems also must be capable of linking effectively with current operations and with OCLC. The OCLC system is used for both pre-order bibliographic searching and for catalog production. It is intimately blended into the routine workflow from the point of request for a book to each book's integration into the collection. Each of the three systems evaluated would inter-relate with the OCLC system in a different way.

Several ALIS installations have established hard wired interfaces between the OCLC terminal and the ALIS hardware. This link typically is composed of an RS-232 interface between the OCLC terminal print port and the mini computer. Appropriate records are transmitted across this link during pre-order searching to a temporary holding file in the ALIS system. Subsequent modification such as status changes are from then on handled completely on the mini computer system. Subsequent bibliographic changes relevant to final cataloging need only be handled on the mini, therefore unless it is deemed desirable (it is presumed to be) to set the holdings record in

the OCLC data base, it is unnecessary to utilize the OCLC system further. There are, of course, occasions where cataloging information would be unavailable on OCLC during pre-order searching, in which cases it is necessary to return to the OCLC terminals in the cataloging workflow.

Since DOBIS is essentially a network level system and since it is based upon a rather unique file organization the link with other data bases is less straight forward. To date, no installation has effected a link to OCLC or any other major automated data bases. In fact, all current installations in North America are network operations. It is presumed possible to develop a direct link, however, it is believed that considerable programming effort is required to develop a smooth transition of bibliographic information from the OCLC terminal into the required format for DOBIS.

Integration of the NOTIS system into a workflow utilizing OCLC is conceptually straight forward. Northwestern is designing a link between their system and RLIN. They currently maintain the entire MARC data base in an off-line file. This file is routinely searched off-line during pre-order processing, and hits are automatically transmitted from the MARC file into the NOTIS data base. It is presumed that the same software will be capable of handling records transmitted via an RS-232 interface from the OCLC print port to a temporary file on the NOTIS hardware. Therefore, the Clemson workflow would incorporate NOTIS in much the same fashion as ALIS.

In addition, each system requires further development of specific modules or portions of modules. ALIS requires both Acquisitions and Serials modules. Currently, Data Phase is developing the Acquisitions module under contract with Atlanta Public Library for delivery in 1981. It is presumed for the purpose of this evaluation that similar arrangements for ALIS Serials development could be made. DOBIS requires testing and debugging of the Acquisitions

module which is presumed to be straight forward on the basis of testing accomplished at Leuven. The major development effort with DOBIS involves the creation of a serials control module from scratch. Of all the systems this is the most extensive individual development effort for Clemson staff. For NOTIS most development involves enhancements of present modules, rather than full development of an individual module. The most substantial project involves subject access for the public access module. However, this is currently Northwestern's major area of concentration. It is presumed that by the time Clemson was able to negotiate a contract for NOTIS that the software development for this module would be largely completed.

4. Implementation costs.

Implementation schedules for each system are summarized in Tables 12 through 14. Task dependency and critical path charts for each system are described in Figures 6 through 8. These implementation schedules include development efforts. While, in each case, various development tasks could be carried on in parallel, it was assumed that parallel development would be restricted by the number of available staff. The implementation schedules are based on an estimate of 3.5 FTE of Clemson staff maximum available exclusive of administrative overhead during implementation.

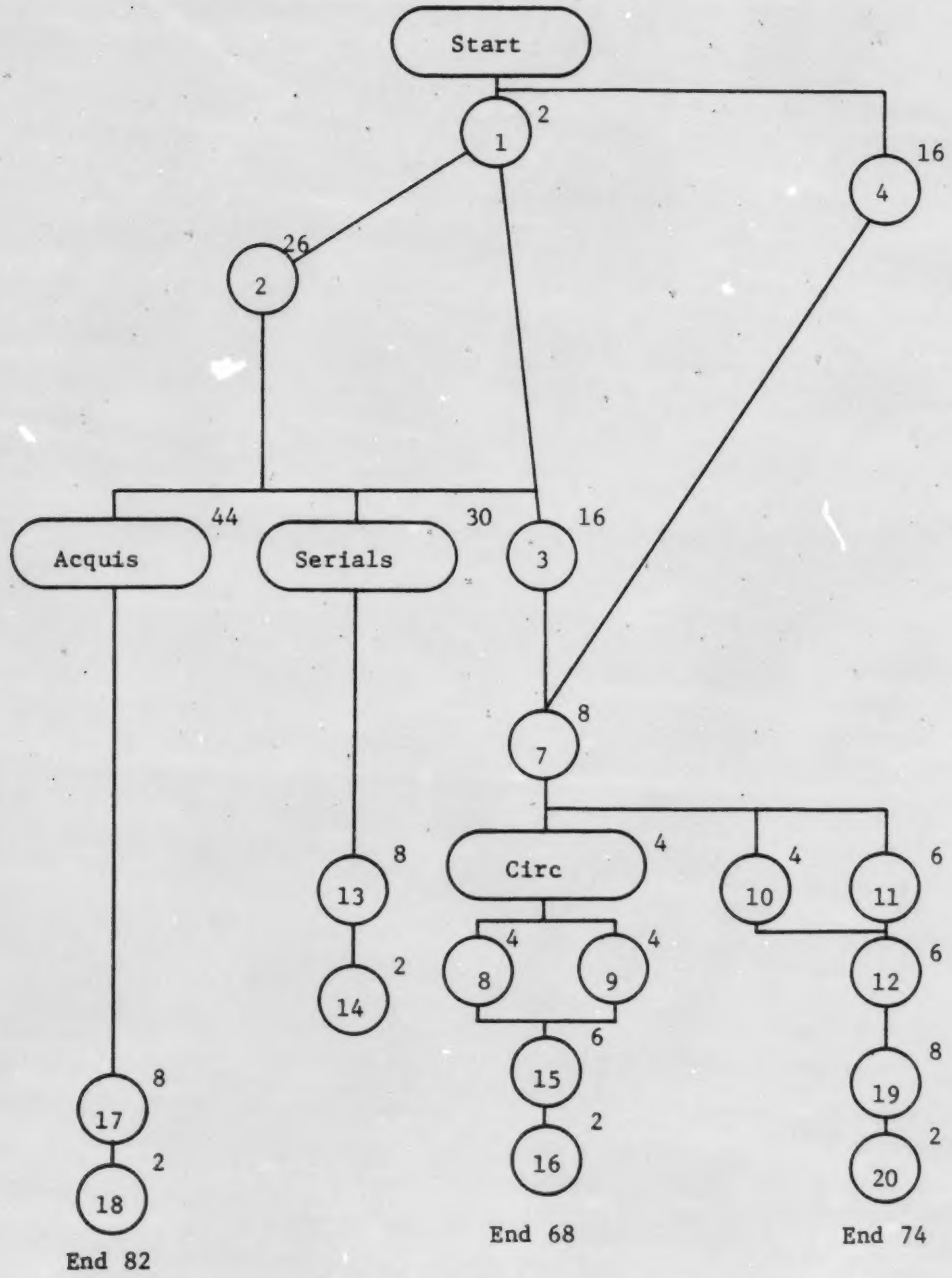
TABLE 12

ALIS Implementation Schedule

	Project Effort Person-Hours		Critical Path Weeks
	Library Systems	Data Processing	
Implementation Tasks Performed During:			
First Six Months			
1. Finalize hardware and software facilities needed	16	-	2
2. Negotiate contract for application software	240	-	26
4. Hire and train Clemson staff for replication	40	-	16
5. Not applicable			
6. Not applicable			
Subtotal, First Six Months Direct	296		
Subtotal, First Six Months Indirect	296		
Total, First Six Months	592		
Equivalent FTE	0.6		
Second Six Months			
3. Acquire any additional hardware needed	-	-	16
7. Load, test application software	160	-	8
Subtotal, Second Six Mos. Direct	160		
Subtotal, Second Six Mos. Indirect	160		
Total, Second Six Mos.	320		
Equivalent FTE	0.3		
Third Six Months			
Circulation Development	140	-	4
Acquisitions Development	120	-	44
Serials Control Development	120	-	30
8. Load Clemson circ. master file	40	-	4
9. Load faculty and student files	40	-	4
10. Load Clemson SOLINET records	40	-	4
11. Prepare student and faculty promotion materials	40	-	6
12. Conduct Library staff training	80	-	6
13. Run paralled serials test	80	-	8
14. Start serials regular operation	24	-	2
15. Run parallel circulation test	80	-	6
16. Start circ. regular operation	24	-	2
19. Pilot public access test	80	-	8
20. Start public access operation	24	-	2
Subtotal, Third Six Mos. Direct	932		
Subtotal, Third Six Mos. Indirect	932		
Total, Third Six Mos.	1864		
Equivalent FTE	1.8		
Fourth Six Months			
17. Parallel acquisitions test	80	-	8
18. Start acquisitions operation	24	-	2
Subtotal, Fourth Six Mos. Direct	104		
Subtotal, Fourth Six Mos. Indirect	104		
Total, Fourth Six Mos.	208		
Equivalent FTE	na		
GRAND TOTAL	2984		

FIGURE 6

ALIS Implementation Task Dependency and Critical Path*



* This schedule assumes no delay due to lack of staff since most development effort is by Data Phase.

Dev CP-H:	380
Imp CP-H:	1112
CP-H:	1492
CPW	82

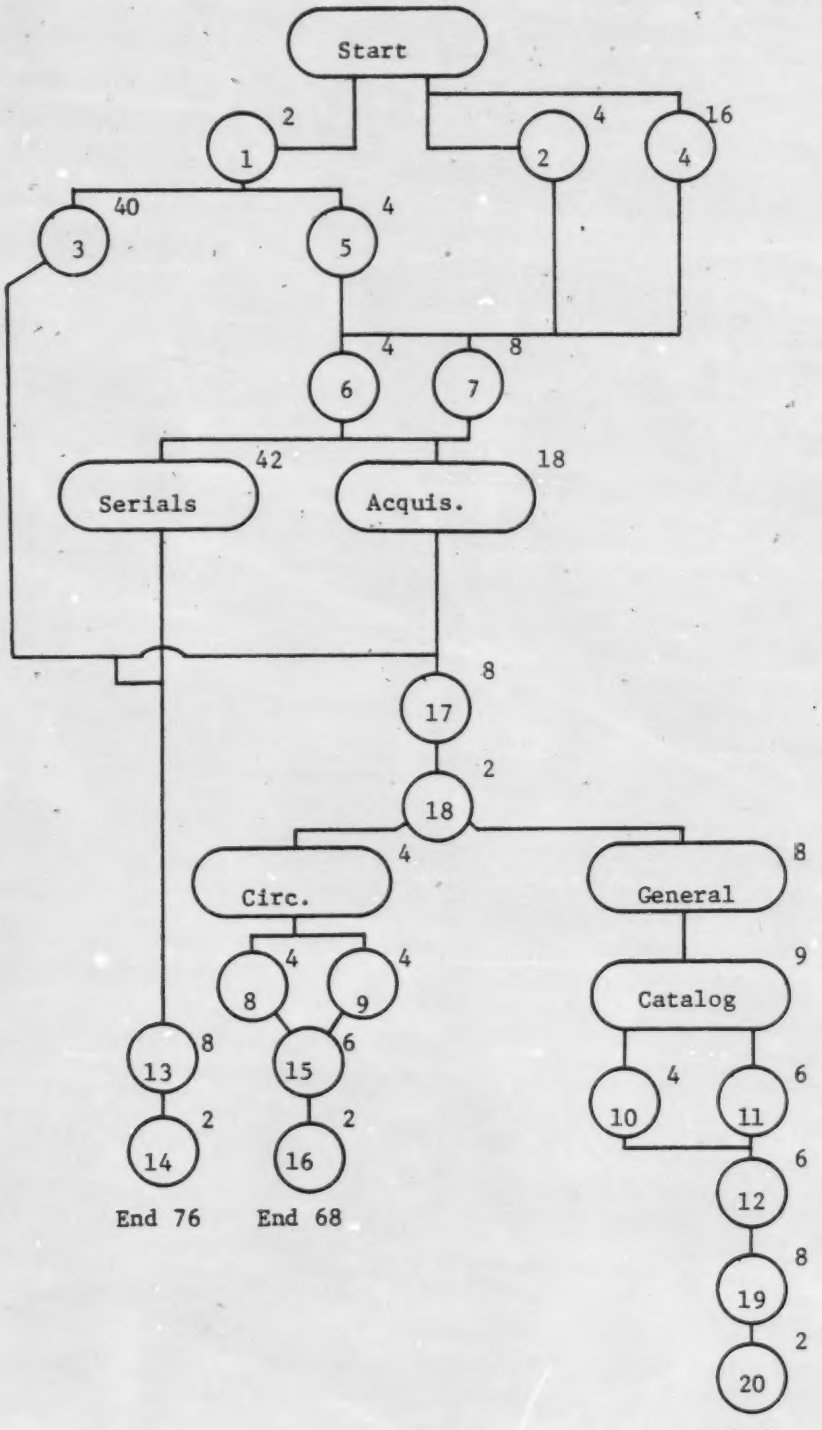
TABLE 13

DOBIS Implementation Schedule

	Project Effort Person-Hours		Critical Path Weeks
	Library Systems	Data Processing	
Implementation Tasks Performed During:			
First Six Months			
1. Finalize hardware and software facilities needed	16	-	2
2. Negotiate contract for application software	20	-	4
3. Acquire any additional hardware needed	10	-	40
4. Hire and train Clemson staff for replication	40	-	16
5. Order and install needed system software	30	-	4
6. Computer staff training, CICS	-	60	4
7. Load, test application software	160	-	8
Subtotal, First Six Months Direct	276	60	
Subtotal, First Six Months Indirect	276	60	
Total, First Six Months	552	120	
Equivalent FTE	0.5	0.1	
Second Six Months			
Acquisitions Development	120	240	12
Serials Control Development	120	880	42
17. Parallel acquisitions test	80	-	8
18. Start acquisitions operation	24	-	2
Subtotal, Second Six Mos. Direct	344	1120	
Subtotal, Second Six Mos. Indirect	344	1120	
Total, Second Six Mos.	688	2240	
Equivalent FTE	.7	2.3	
Third Six Months			
General Management Development	-	40	8
Circulation Development	-	140	4
8. Load Clemson circ. master file	80	-	4
9. Load faculty and student files	80	-	4
10. Load Clemson SOLINET records	80	-	4
11. Prepare student and faculty promotion materials	80	-	6
13. Run paralled serials test	80	-	8
14. Start serials regular operation	24	-	2
15. Run parallel circulation test	80	-	6
16. Start circ. regular operation	24	360	2
Subtotal, Third Six Mos. Direct	528	360	
Subtotal, Third Six Mos. Indirect	528	360	
Total, Third Six Mos.	1056	720	
Equivalent FTE	1.0	.7	
Fourth Six Months			
12. Conduct library staff training	80	-	6
19. Pilot public access test	80	-	8
20. Start public access operation	24	-	2
Subtotal, Fourth Six Mos. Direct	184	-	
Subtotal, Fourth Six Mos. Indirect	184		
Total, Fourth Six Mos.	368	-	
Equivalent, FTE	0.4	-	
GRAND TOTAL	2664	3080	

FIGURE 7

DOBIS Implementation Task Dependency and Critical Path



Week
0
4
8
12
16
20
24
28
32
36
40
44
48
52
56
60
64
68
72
76
80
84
88

Dev CP-H	1720
Imp CP-H	1152
CP-H	2872
CPW	91

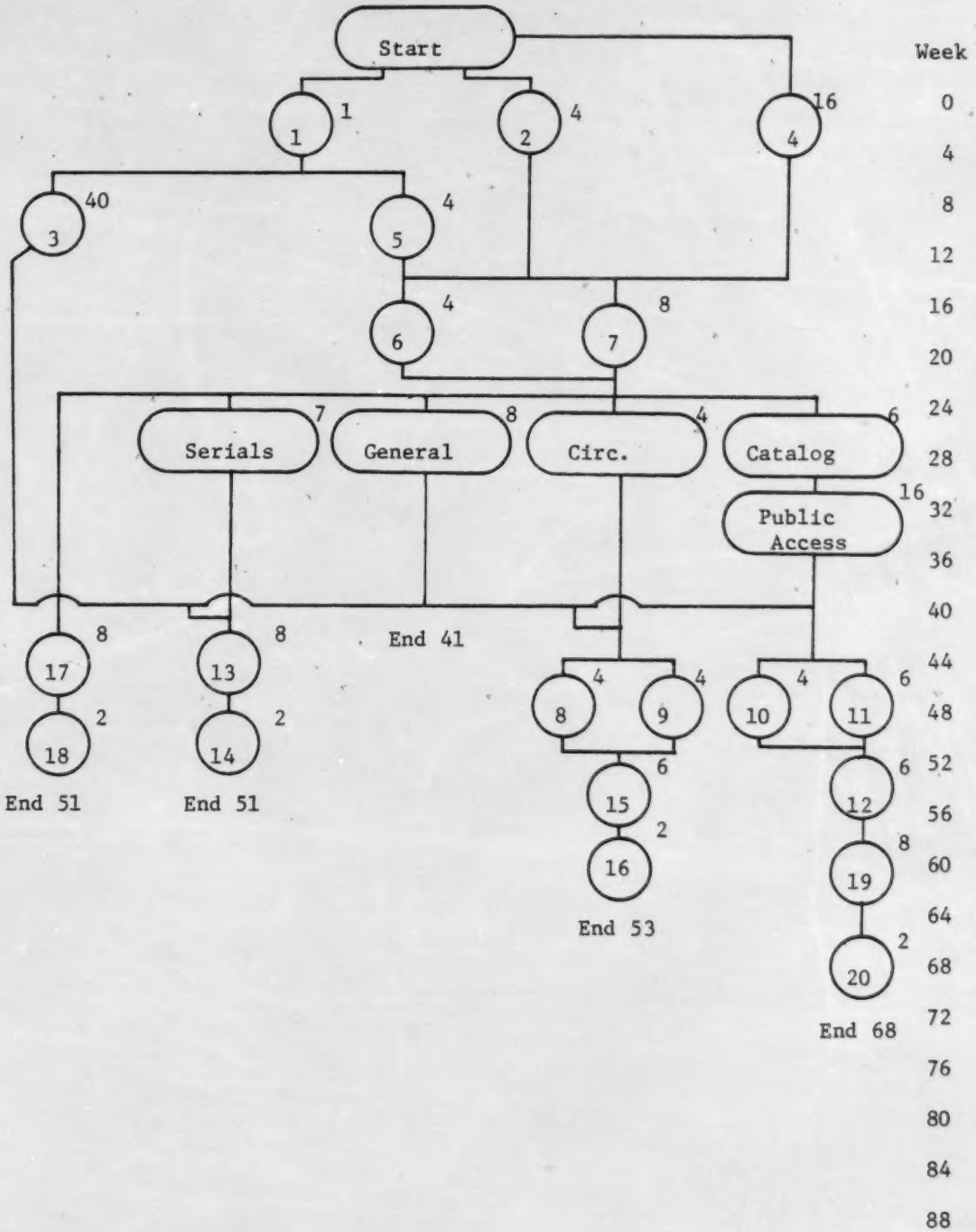
TABLE 14

NOTIS Implementation Schedule

	Project Effort Person-Hours		Critical Path Weeks
	Library Systems	Data Processing	
Implementation Tasks Performed During:			
First Six Months			
1. Finalize hardware and software facilities needed	16	-	2
2. Negotiate contract for application software	20	-	4
3. Acquire any additional hardware needed	10		40
4. Hire and train Clemson staff for replication	40	-	16
5. Order and install needed system software	30	-	4
6. Computer staff training, CICS	-	60	4
7. Load, test application software	160	-	8
Subtotal, First Six Months Direct	276	60	
Subtotal, First Six Months Indirect	276	60	
Total, First Six Months	552	120	
Equivalent FTE	0.5	0.1	
Second Six Months			
Serials Control Development	20	120	7
General Management	-	40	8
Circulation Development	-	120	4
Cataloging Development	-	120	6
Public Access Development	-	380	12
8. Load Clemson circ. master file	80	-	4
9. Load faculty and student files	80	-	4
10. Load Clemson SOLINET records	80	-	4
11. Prepare student and faculty promotion materials	80	-	6
13. Run parallel serials test	80	-	8
14. Start serials regular operation	24	-	2
15. Run parallel circulation test	80	-	6
17. Parallel acquisitions test	80	-	8
18. Start acquisitions operation	24	-	2
Subtotal, Second Six Mos. Direct	628	780	
Subtotal, Second Six Mos. Indirect	628	780	
Total, Second Six Mos.	1256	1560	
Equivalent FTE	1.2	1.5	
Third Six Months			
12. Conduct library staff training	80	-	6
16. Start circ. regular operation	24	-	2
19. Pilot public access test	80	-	8
20. Start public access operation	24	-	2
Subtotal, Third Six Mos. Direct	208	-	
Subtotal, Third Six Mos. Indirect	208	-	
Total, Third Six Mos.	416	-	
Equivalent FTE	0.2	-	
GRAND TOTAL	2224	1680	

FIGURE 8

NOTIS Implementation Task Dependency and Critical Path



An estimate of total implementation effort is summarized in Table 15. This summary reveals that the ALIS system will require less development effort than the other two systems for Clemson staff. However total elapsed time for implementation is least with NOTIS.

A summary of cost for each system is covered in Table 16 and 17. The comparison was made on the basis of stand-alone configurations. It could be argued that either DOBIS or NOTIS could be installed on Clemson's central computer. However, at least two considerations offset this argument. First, both systems require a considerable portion of computer resources. It is estimated on MEP comparisons that the minimum configuration for NOTIS would require 4% of the Clemson IBM 3033 and for DOBIS up to 6%. Coupled with the requirement for CICS it appears that a substantial hardware investment would be needed. It is believed that the investment would approximate the cost of a stand alone system. Second, the NOTIS system operates under DOS. Revising it to run under OS involves a significant additional investment with no accompanying gain in performance.

In addition to the considerations mentioned above, the decision making process is simplified by comparing stand alone configurations. The hardware costs for NOTIS and DOBIS were calculated by IBM Corporation staff from hardware configuration requirements established in the respective documentation of each system. The ALIS hardware costs were extracted from the open literature. Hardware and software costs are detailed in Appendices I and J.

TABLE 15

Estimated Implementation Effort Summary *1

	Project Effort Person-Hours			Critical Path Calendar Weeks
	ALIS	DOBIS	NOTIS	
Implementation Tasks (Non-Development)				
1. Finalize hardware and software facilities needed	16	16	16	2
2. Negotiate contract for application software	240	20	20	(26,4,4)
3. Acquire any additional hardware needed	-	10	10	(16,40,40)
4. Hire and train Clemson staff for replication	40	40	40	16
5. Order and install needed system software	-	30	30	4
6. Computer staff training, CICS	-	60	60	4
7. Load, test application software	160	160	160	8
8. Load Clemson circ. master file	40	80	80	4
9. Load faculty and student files	40	80	80	4
10. Load Clemson SOLINET records	40	80	80	4
11. Prepare student and faculty promotion materials	40	80	80	6
12. Conduct library staff training	80	80	80	6
13. Run parallel serials test	80	80	80	8
14. Start serials regular operation	24	24	24	2
15. Run parallel circulation test	80	80	80	6
16. Start circ. regular operation	24	24	24	2
17. Parallel acquisitions test	80	80	80	8
18. Start acquisitions operation	24	24	24	2
19. Pilot public access test	80	80	80	8
20. Start public access operation	24	24	24	2
Subtotal Implementation (Non-Development)	1112	1152	1152	na
Development Effort	380	1720	800	na
Total Direct Implementation Effort	1492	2872	1952	
Total Indirect Implementation (*2)	1492	2872	1952	
GRAND TOTAL, PERSON-HOURS	2984	5744	3904	
CRITICAL PATH TIME, WEEKS	82	91	68	
AVERAGE PERSON-HOURS PER CRITICAL PATH WEEK	36	63	57	

*1 These effort estimates reflect the effort of the Clemson staff only. As such, they do not include the overhead administrative time of Clemson staff, or any of the time spent by the other organizations; DataPhase, IBM, Northwestern University.

*2 Direct productive time is estimated at 50% of direct staff time.

TABLE 16

Summary Cost Comparison for Hardware and Software

	ALIS	DOBIS	NOTIS
First Year:			
Hardware	$229,240	$412,556	$254,669
Application Software	55,000	49,500	50,000
Annual Hardware Maint	16,920	13,500	9,162
Annual System Software	-	*41,940	30,708
Subtotal	$301,160	$517,469	$344,539
2nd Year:			
Hardware (Terminals)	36,640	66,785	66,785
Annual Hardware Maint	16,920	13,500	9,162
Annual System Software	-	41,940	30,708
Subtotal	$ 53,560	$122,225	$106,655
3rd Year:			
Annual Hardware Maint	$ 16,920	$ 13,500	$ 9,162
Annual System Soft	-	$ 41,940	$ 30,708
4th Year:			
Annual Hardware Maint	$ 16,920	$ 13,500	$ 9,162
Annual System Soft	-	$ 41,940	$ 30,708
5th Year:			
Annual Hardware Maint	$16,920	$ 13,500	$ 9,162
Annual System Soft	-	$ 41,940	$ 30,708
Five Year Total	$405,480	$806,041	$570,804
Amortized Annual Cost	$ 81,096	$161,208	$114,161

* Estimate based on OS operation. It is possible that DOBIS may be available to run under DOS in the near future in which case hardware and software costs would be nearly the same as for NOTIS.

TABLE 17

Staffing Pattern for Development and Implementation*

	ALIS		DOBIS		NOTIS	
	FTE	$	FTE	$	FTE	$
1st 6 months	1	$ 4,750	1	$ 8,850	1	$ 8,850
2nd 6 months	1	4,750	3	21,100	3	21,100
3rd 6 months	2	10,165	2	14,552	1	9,470
4th 6 months	1	5,083	1	9,470	1	9,470
TOTAL		$24,748		$53,970		$48,890

* Minimum staff to implement system for selection comparison. An actual staff recommendation to implement selected system will be larger to accomodate skills distribution, record conversion and system operation.

V. Recommendation

A. Summary

It is recommended that Clemson University Library acquire the NOTIS software and install it on an IBM 4331 with sixteen attached terminals. This recommendation will require an initial investment of $344,539. In addition, it will require the full time effort of one Library programmer analyst and one Library LTA for an indefinite period. The system should be installed in the Library and operated by library staff with the assistance of DAPS for analysis and programming support. Additional systems programming support will be required from Clemson Computing Center.

B. Decision rationale.

An overall decision as to which system best meets the requirements of Clemson is derived from four criteria: cost, development effort, overall features available, and serials control capability. A summary of major decision criteria is shown in Table 18. Putting these criteria together for each system several things become apparent.

The ALIS system costs the least in terms of initial investment. This system requires the least investment in hardware and virtually no further development effort. However, the hardware cannot link with campus terminals, is not substantially upgradable, and may lack the capacity for a large integrated system. Furthermore, development of a serials control module must wait on the vendor.

The DOBIS system costs the most and it lacks complete serials control. Development of serials and other enhancements are largely up to Clemson.

The NOTIS system rated the best in terms of features and it already has a sophisticated serials control system in place. Furthermore, it costs only slightly more than ALIS. It should also be recognized that the initial hardware investment is for equipment considerably more powerful than the ALIS computer. Development effort for NOTIS requires staff in-house which are not required for ALIS.

The final decision comes down to a choice between a vendor supported turnkey system and a university library developed system. In favor of the vendor controlled system is its slightly lower cost and minimal development effort required of the library. In favor of the Library developed system is the broader range of features, serials control, greater machine power and flexibility, and significantly greater potential for large integrated system capability.

TABLE 18

Summary of Decision Criteria

	ALIS	DOBIS	NOTIS
Initial cost	$301,160	$517,496	$344,539
Development person hours	380 hours	1,720 hours	800 hours
Elapsed Implementation time	82 weeks	91 weeks	68 weeks
Overall % of features available	59%	64%	76%
Network capability	No	Yes	Yes
Serials control	No	No	Yes

C. Plan of Implementation

Implementation of the NOTIS system should follow the schedule diagrammed in Figure 8 and summarized in Table 14. The staffing pattern should follow that summarized in Table 19. The systems analyst position on the Library staff will require the addition of a position to the Library at grade 34 (salary $17,684 for FY 1980-81). The LTA position will be shifted from existing positions. Although, only one position is shown for DAPS, for some short periods of time during development it may be prudent to involve additional staff. Conversion of the circulation system, for instance, may require some effort on the part of the staff already knowledgeable with the current circulation system. It is also presumed that the Library Systems Analyst will do some coding as necessary.

TABLE 19

Staffing NOTIS Implementation

	Library Staff	DAPS Staff	Computer Center Staff	Total
1st 6 months				
	1.0 Syst Anal .5 Liby Tech Assis III	-	-	1.5
2nd 6 months				
	1.0 Syst Anal 1.0 Liby Tech Assis III	1.0 Progr	.5 Oper Sys	3.5
3rd 6 months				
	1.0 Syst Anal 1.0 Liby Tech Assis III	-	.5 Oper Sys	2.5

Approval of the recommendation in this report will also require the continuation of implementation steps outlined in the general design study and reiterated below. This report constitutes step two. Step one was proven infeasible, pending outcome of this report. Additionally, effort of Cataloging staff will be allocated to the tasks of workflow analysis and impact of systems and to data base conversion. The data base required to support the overall system and especially public access will be created by a combination of effort including keying of serials records directly to the system, input of records via Acquisitions as that module is installed, reformatting of the current circulation file, and upgrading of records through routine operations.

1. Upgrade the current circulation system to provide online access to data.

The current circulation system provides information about items in circulation, and patron information by means of daily batch produced, printed reports. These reports average several hundred computer printout pages each day. Upgrading of the system to allow online access to patron information will eliminate most of the printouts and will provide real-time access to information about the current day's activity.

2. Identify, evaluate and acquire a currently available library system which will provide serials control.

The search for a system will be based upon the characteristics and capabilities of the serials system described in this report. Evaluation will be determined in relation to candidate systems' ability to fulfill as many of the objectives as described in part VI of this report as possible. Assistance with identifying and evaluating potential systems will be provided

by retaining a nationally recognized consultant on Library automation systems. The system obtained will be chosen on the basis of the evaluation, cost, and potential for modification to make it link appropriately to other systems and Clemson hardware. The system must provide a mechanism such as authority control to insure that entries made into the initial subsystem will be consistent with other subsystems as they are implemented.

3. Begin immediate conversion of serials information.

The bibliographic, holdings and financial information currently residing in the card catalog and several files will be consolidated and converted to a machine readable format. The record structure used will be based upon the Marc 2 format. This format will be used in order to make the data available in an international standard format so that it can be readily reformatted into the record structure required by the serials system chosen. This conversion effort should be initiated as soon as possible upon approval to proceed, by the most effective technology available and by a team composed of members of the Serials and serials cataloging units. Data converted to machine readable format will form the basis of the database for the serials system installed. Bibliographic data entered will be made consistent by means of authority control.

4. Install and implement the serials system.

Pending acquisition the DAPS will install the system. Implementation of programs will commence with the loading of converted records and production of purchase orders. Installation will include modification and adaption of the system to operate in the Clemson computing environment.

5. Implement modifications and procedures to use the system for monograph acquisition purchases.

Following several months of successful use of the Serials System for serials control and access, it will begin to be used for the purchase of monographs. This use will largely affect the growth of the bibliographic database. Some period of use for acquisitions will result in the development of a database which will represent a significant portion of total holdings of the Library.

6. Upgrade Circulation database and load.

All holdings of the library are currently represented by a file of computer cards which contains one 80 character record for each physical item in the collection. These will be matched against a nationally available database of MARC records. The matching process will upgrade the records by adding subject headings and secondary author headings. This will constitute a new data file which will be merged with the serials and acquisitions database in the operating online system. The resulting database with subject access will offer virtually all the capability of a complete online catalog for all the library's holdings, thus displacing the continuance of the card catalog.

7. Develop and implement final modules.

Modules to provide online circulation and management information reports will be implemented in the final phase. The circulation system will be upgraded to a module of the library integrated system to allow online circulation in a real-time mode and to provide for access to current days activity.

FOOTNOTES

1. Clemson University. Robert Muldrow Cooper Library. Application Transfer Team. Total integrated library information system; a report on the general design phase. (Clemson: 1980).
2. Ringgold Management Systems. The DOBIS and Washington Library Network Systems. (Richmond, B.C.: British Columbia Union Catalog, 1980).

APPENDIX A

Detailed Point Distribution

Feature	Points Available		ALIS	DOBIS	NOTIS
Acquisitions:					
1.0	18		0	9	18
2.0					
2.1	10		5	5	10
2.2	24		0	10	22
2.3	8		0	4	6
2.4	6		0	3	3
2.5	6		0	3	3
2.6	20		0	4	20
2.7	10		0	2	10
3.0					
3.1	10		0	5	10
3.2	2		0	1	1
3.3	10		0	5	10
3.4	18				
3.4.1 - 3.4.5		10	0	5	10
3.4.6 - 3.4.7		8	0	0	8
3.5	20		0	8	16
3.6	30				
3.6.1 - 3.6.3		6	0	3	4
3.6.4		24	0	0	24
3.7	6		0	2	5
3.8	4		0	0	0
4.0	10		4	5	5
5.0	12		0	4	8
6.0	12		0	12	10
7.0	24		0	0	9
Total	260		9	90	212
Cataloging:					
1.0	20				
1.1		4	0	4	4
1.2		4	4	0	0
1.3		12	10	10	10
2.0	6		6	6	6
3.0	28		14	18	14
4.0	14				
4.1		2	2	1	2
4.2		6	6	6	6
4.3		2	2	0	0
4.4		2	2	2	2
4.5		2	2	0	2
4.6		2	1	0	0
5.0	16		4	14	14
Total	84		53	61	60

Circulation	Points Available		ALIS	DOBIS	NOTIS
1.0	26		22	18	14
1.1	6		6	3	3
1.2	6		6	6	6
1.3	10		10	10	5
2.0	48				
2.1		4	4	4	4
2.2		10	10	8	5
2.3		6	6	6	4
2.4		28	28	28	4
3.0	30				
3.1		4	4	4	4
3.2		4	4	4	4
3.3		4	4	4	2
3.4		4	4	4	2
3.5		10	10	5	8
3.6		4	4	2	2
4.0	28				
4.1		4	4	0	4
4.2		4	4	4	4
4.3		4	4	4	4
4.4		4	4	4	4
4.5		4	4	4	4
4.6		8	8	4	4
Total	154		150	126	93

File Structure:

1.0	12				
1.1		3	3	3	3
1.2		3	3	3	2
1.3		6	6	6	6
2.0	20		20	20	20
3.0	16		16	16	16
4.0	16		16	16	16
5.0	16		8	4	6
6.0	80				
6.1		8	8	4	8
6.2		8	8	4	8
6.3		4	4	2	4
6.4		4	4	2	4
6.5		4	4	4	4
6.6		8	8	4	8
6.7		4	2	2	4
6.8		4	2	2	2
6.9		8	8	0	4
6.10		8	6	8	8
6.11		8	8	8	8
6.12		12	0	0	0
Total	160		144	108	131

Public Access:	Points Available		ALIS	DOBIS	NOTIS
1.0	20		20	20	20
2.0	110				
2.1		10	10	10	10
2.2		8	8	8	4
2.3		10	10	10	10
2.4		10	10	10	10
2.5		10	10	10	0
2.6		12	8	8	8
2.7		10	0	8	0
2.8		10	5	8	10
2.9		10	10	8	10
2.10		10	10	10	10
2.11		10	0	0	0
3.0	16				
3.1		4	4	4	4
3.2		4	4	4	4
3.3		4	4	4	4
3.4		4	4	4	4
Total	146		117	126	118
Grand Total	804		473	511	614
			58.8%	63.6%	76.4%

Operational status of acquisitions will increase DOBIS by 90 points to 601 or 74.8%; and Data Phase by 215 to 688 or 85.6%.

Interviewed: 1-5-81

SYSTEM: BYU
CONTACT: John Taylor
TELEPHONE: 801/378-4201

SCREENING QUESTIONNAIRE

1.0 System specific questions.	
Equipment?	IBM 4331 shared
Replicated?	No, Actually replicated from UCLA.
Functions: Acq Serials Cat Circ?	Serials.
Source code availability?	Probably.
2.0 Brief description of system.	Serials system combined w/indexing system and searching of commercial data-base. Automated claims and check-in. Historical fund data.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Have an historical accounting system.
3.1.2 Does the subsystem provide for fund control?	
3.1.3 Does the system include automatic duplicate checking?	
3.1.4 Does the subsystem provide automatic claiming?	
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	

SCREENING QUESTIONNAIRE

SYSTEM: BYU

3.2 Cataloging

3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?

RLG. Not linked. Writing specs to dump in tapes.

3.2.2 How is authority control included?

3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?

3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?

SCREENING QUESTIONNAIRE	SYSTEM: BYU
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	CLSI
3.3.2 Does the subsystem maintain a bo-row file on-line?	
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	
3.3.4 Does the subsystem produce overdue notices automatically?	
3.3.5 Does the subsystem accomodate reserve loans? How?	
3.3.6 How does the subsystem accomodate hold requests?	
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Not yet. Due in March. Now have one in periodical room.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	

SCREENING QUESTIONNAIRE	SYSTEM: BYU
3.4.3 Does the system provide for author and title searching?	
3.4.4 Does the system provide for subject search? Under which functions?	
3.4.5 Does the system provide for searching by keywords? Describe briefly.	
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Operational.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	Fund control.

3.5.3 Does the subsystem provide for payment history for serials? To what extent?	Yes.
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes.
3.5.5 Does the subsystem provide for claiming? Automatically?	Yes.
3.5.6 Does the system provide for inventory control of individual pieces?	
3.5.7 Does the subsystem handle binding? How?	
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	No.

3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.

4.0 Hardware/Software

4.1 Describe briefly the hardware architecture.

4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?

4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.

SCREENING QUESTIONNAIRE

SYSTEM: BYU

4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?

4.5 What is the minimum software cost to get system replication started?

4.6 Describe briefly the support provided for replication?

4.7 What program languages are utilized in the software?

4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?

Locally generated TP monitor.

4.9 Are functions handled mostly by on-line terminals?

Interviewed 1-13-81

SCREENING QUESTIONNAIRE

SYSTEM: Chicago
CONTACT: Charles T. Payne (New director - Martin Runkle 312/753-2933)
TELEPHONE: 312/753-2908

1.0 System specific questions. Replication support? Functions: Ser, Acq, Cat, Circ? Source code availability?	Acq., Cat., Circ. Not serials
2.0 Brief description of system.	Library data management system utilizing a total system approach to bibliographic, tech processing, and circulation. Present system is really dandy. But large and based on old software packages - not flexible to change.
2.1 Is the system available for replication elsewhere?	
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operational.
3.1.2 Does the subsystem provide for fund control?	Has capacity to handle funds and maintain data. Not a full fund control system.
3.1.3 Does the system include automatic duplicate checking?	Duplicate checking is embedded in search procedure.
3.1.4 Does the subsystem provide automatic claiming?	Yes. Input cycle time in each order. Has a default valve. Weekly call for claims by request.
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Links to University's file.
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: Chicago

3.2 Cataloging	
3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	As a subsystem, and by link both. Has ability to input a record.
3.2.2 How is authority control included?	Name & subject authority files. Not linked to bibliog. file.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Yes. They load LC Marc tapes.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: Chicago

3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational. User Chicago designed terminal (JRL-1000) developed in conjunction w/Cinn Elec.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes.
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	On-line or batch.
3.3.4 Does the subsystem produce overdue notices automatically?	Yes.
3.3.5 Does the subsystem accomodate reserve loans? How?	Yes.
3.3.6 How does the subsystem accomodate hold requests?	Think so.
3.4 Search	
3.4.1 Does the system provide for public use terminals?	For circulation system. Check out books & renew on their o[illegible].
3.4.2 Has the public access facility been used in an actual library environment by patrons?	2 years.

SCREENING QUESTIONNAIRE	SYSTEM: Chicago
3.4.3 Does the system provide for author and title searching?	No. By call #, piece #. Not linked to bibliographic search system. Available at public service points.
3.4.4 Does the system provide for subject search? Under which functions?	Yes. Of bibl. file.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Some Boolean capability.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Does cataloging and ordering.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	

SCREENING QUESTIONNAIRE	SYSTEM: Chicago
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	No.
3.5.4 Does the subsystem handle issue receipt; check-in?	
3.5.5 Does the subsystem provide for claiming? Automatically?	
3.5.6 Does the system provide for inventory control of individual pieces?	Yes.
3.5.7 Does the subsystem handle binding? How?	No.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Highly integrated. Single bibliographic file including full Marc data base.

SCREENING QUESTIONNAIRE	SYSTEM: Chicago
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Common access and use of files.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	Amdalh V/7 shared w/University. One of the major user. Up to 1/6 of machine at peaks.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	

SCREENING QUESTIONNAIRE	SYSTEM: Chicago
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	Probably IBM 4341.
4.5 What is the minimum software cost to get system replication started?	
4.6 Describe briefly the support provided for replication?	
4.7 What program languages are utilized in the software?	Largely PC-1. Model 204 data base package (ISAM file portion).
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	Intercom.
4.9 Are functions handled mostly by on line terminals?	

1-7-81

Talked w/Martin Runkle about Chicago System.

Asked him about willingness of Chicago to provide source code and documentation to effect a replication.

He indicated that Chicago would be willing to provide the system, but that he felt we would not want it. Not a serials control system. Is integrated but controls only 1st time order of serial - no history.

Furthermore, they are in process of designing and implementing a replacement system as a joint project with IBM.

Interviewed 1-6-81

SYSTEM: Cinn Elec
CONTACT: Dan Iddings (Joyce Davis)
TELEPHONE: 513/563-6000 x 243

SCREENING QUESTIONNAIRE	
1.0 System specific questions. Vendor supported? Functions: Ser Acq Cat Circ? Source code availability?	 In past. Acq. Circ. Yes. Passes constraints but since acquis is not operational on Univac installation nor is circ yet fully operational at Henrico, not considered further.
2.0 Brief description of system.	Circulation system w/bar code control. On-line access including author/title. Design is integrated system w/common data base. Acquis. system developed at Duke. Cat. coming up. Serials to be subset of Acq.
2.1 Is the system available for replication elsewhere?	Yes. Now up at Henrico County (Va.) Liby System, but still being tested.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Not installed. But running at Duke on IBM; converting now for Univac.
3.1.2 Does the subsystem provide for fund control?	Yes
3.1.3 Does the system include automatic duplicate checking?	No
3.1.4 Does the subsystem provide automatic claiming?	Does for monographs
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Own
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes

SCREENING QUESTIONNAIRE

SYSTEM: Cinn Elec

3.2 Cataloging 3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	By link. Pre-order search of OCLC to cassette tape then dump into system. Operational dataloger attached to print-port of OCLC terminal.
3.2.2 How is authority control included?	Not yet, planning for it.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Input: Yes Output: Possible Store full Marc for every title. But of course don't need this for circ.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes. Can call up entire data.

SCREENING QUESTIONNAIRE

SYSTEM: Cinn Elec

3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational at Henrico but just now coming fully on-line.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	Yes. Also talking to several universities about interfacing with main univ. computer.
3.3.4 Does the subsystem produce overdue notices automatically?	Yes. Based on input schedule. Have to load form on printer before running program.
3.3.5 Does the subsystem accomodate reserve loans? How?	Yes. Developed but not installed.
3.3.6 How does the subsystem accomodate hold requests?	Yes. By on-line indication of requestors against file, automatic detection of returned items and automatic check-out to next requestor.
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Not yet fully developed. Awaiting subject access
3.4.2 Has the public access facility been used in an actual library environment by patrons?	No

SCREENING QUESTIONNAIRE	SYSTEM: Cinn Elec
3.4.3 Does the system provide for author and title searching?	Yes. By full or partial name in correct or reverse order. Five different author search keys. By complete title, partial title, or OCLC search key. And by combination of author/title. Under acquis. and circ.
3.4.4 Does the system provide for subject search? Under which functions?	By truncated LC class numbers under circulation.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Planned Boolean.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Long range plan. Hooks are in so that issue specific info can be attached to acquisitions record.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	Yes Yes Yes

SCREENING QUESTIONNAIRE	SYSTEM: Cinn Elec
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	No
3.5.4 Does the subsystem handle issue receipt; check-in?	No
3.5.5 Does the subsystem provide for claiming? Automatically?	No
3.5.6 Does the system provide for inventory control of individual pieces?	No
3.5.7 Does the subsystem handle binding? How?	No
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	N/A
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Acq-Circ are linked. Design overall is integrated.

SCREENING QUESTIONNAIRE	SYSTEM: Cinn Elec
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Common use of same files.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	Univac-V77. 40 to 300 Mbyte disc, up to 15 discs to a single controller --equivalent to 20,000,000 MARC records.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	Operating System provides for link.
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	Apparently not.

SCREENING QUESTIONNAIRE

SYSTEM: Cinn Elec

4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	Univac V77, one disc drive, one printer. Terminals. Centronix or Printronix printers. Flexible, depending on library needs. Minimum system cost $100,000.
4.5 What is the minimum software cost to get system replication started?	$20,000-30,000
4.6 Describe briefly the support provided for replication?	Variety of ways. Separate bid on maintenance. Always provide software mainte. Dial-in diagnostics is working.
4.7 What program languages are utilized in the software?	ol. Fortran IV
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	Univac TOTAL data base manager.
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed 12/19/80

SYSTEM: Data Phase 1-8-81
CONTACT: Nancy Eaton/Atlantic Public Elvin Smith - Data Phase
TELEPHONE: 404/688-4636 x 227 816/931-7927

SCREENING QUESTIONNAIRE

1.0 System specific questions.	
Source code available?	Usually agree to this.
2.0 Brief description of system.	Automated circ, acquis., cataloging and file inquiry system "designed to handle all routine library functions." Acquis not yet coded. 44 current installations. Currently redoing entire system as ALIS-II.
2.1 Is the system available for replication elsewhere?	Yes
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Not yet operational at Atlanta Public -- 1st installation. As part of ALIS-II.
3.1.2 Does the subsystem provide for fund control?	Yes
3.1.3 Does the system include automatic duplicate checking?	Probably
3.1.4 Does the subsystem provide automatic claiming?	It will
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Own file
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes

SCREENING QUESTIONNAIRE

SYSTEM: Data Phase

3.2 Cataloging	
3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	By link. Atlanta Public developing OCLC printer port to Data Phase terminal. In place already.
3.2.2 How is authority control included?	Nothing yet.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Yes Write's out records to file as needed. Special feature that is so disc intensive that not good to run.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes.

SCREENING QUESTIONNAIRE	SYSTEM: Data Phase
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	Yes
3.3.4 Does the subsystem produce overdue notices automatically?	Yes
3.3.5 Does the subsystem accomodate reserve loans? How?	Yes. Ck w/Oral Roberts.
3.3.6 How does the subsystem accomodate hold requests?	By on-line input of requestor info. Terminal beeps and gives message when a book is discharged to alert staff about hold.
3.4 Search	
3.4.1 Does the system provide for public use terminals?	It can. Not at Atlanta, because of telephone
3.4.2 Has the public access facility been used in an actual library environment by patrons?	Expect to implement years from now at Atlanta. Is used this way elsewhere, eq. Greensboro, NC Public & Stephen Austin. Under ALIS-II will be fully supported.

SCREENING QUESTIONNAIRE	SYSTEM: Data Phase
3.4.3 Does the system provide for author and title searching?	Yes. Full, partial or key. Searching is performed character by character. "String-head search." Will later have full Boolean capability.
3.4.4 Does the system provide for subject search? Under which functions?	Yes. All functions. Can type in subject head and will respond with all headings beginning with term entered. Under ALIS-II it will also do subheading match.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Yes.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Planned but not designed.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	

SCREENING QUESTIONNAIRE	SYSTEM: Data Phase
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	
3.5.4 Does the subsystem handle issue receipt; check-in?	No
3.5.5 Does the subsystem provide for claiming? Automatically?	
3.5.6 Does the system provide for inventory control of individual pieces?	Bibliographic records for serials can be entered and volume item control for circulation maintained, by ALIS-I.
3.5.7 Does the subsystem handle binding? How?	
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Yes

SCREENING QUESTIONNAIRE	SYSTEM: Data Phase
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Mutual use. Data going in via acquisitions can be searched via circ. software. Can even place a hold on an on-order title.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	Data General NOVA 3/D or Eclipse S/130 or S/230. Tandem at Chicago Public Library because of size; Chicago has 150 terminals; going up to 500. Same system design as in ALIS-II.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	None at this point, but an obvious extension on Tandem.
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	Total responsibility of vendor. Has an interface so vendor can dial into computer and diagnose problems.

SCREENING QUESTIONNAIRE	SYSTEM: Data Phase
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	Probably Elipse S/130 (128 KBO w/1 300 MB disc, 1 line printer (180 CPS), 1 9 track tape, communication chassics, character set, I/O board/ real time clock, 10 full terminals, 5 CRT's. 121,630 - 38,000 + 54,500 + 400 = $138,530. About 2,000/no maint.
4.5 What is the minimum software cost to get system replication started?	$55,000 Includes subsequent functions free. They sell ALIS for one price with all subsequent enhancements added free at no additional software charge.
4.6 Describe briefly the support provided for replication?	Complete.
4.7 What program languages are utilized in the software?	MIIS (Meditech Interpretive Information System) Good except for response time.
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	Current operating system will run on Data General, DEC, Tandem and IBM system 1 only. Not supported on IBM 4300.
133	134
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed 1/5/81

SYSTEM: Denver, Univ. of
CONTACT: Ward Shaw, Patricia Calkin
TELEPHONE: 303/753-2007

SCREENING QUESTIONNAIRE

1.0 System specific questions.	
Equipment?	Burroughs B6700 shared
Support for equipment?	No.
Replicated?	Has not been replicated.
Functions: Ser, Acq, Cat, Circ?	Serials, circulation, acquisitions, fund control and public access
Source Code Available?	Yes
2.0 Brief description of system.	Modular on-line systems for serials, circulation, acquisitions, fund control & some public access.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operational
3.1.2 Does the subsystem provide for fund control?	Yes
3.1.3 Does the system include automatic duplicate checking?	Yes
3.1.4 Does the subsystem provide automatic claiming?	N/A
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	N/A
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes.

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SCREENING QUESTIONNAIRE

SYSTEM: Denver, Univ. of

3.2 Cataloging 3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	Link to OCLC by data transfer. Off line process. Added info thru terminal.
3.2.2 How is authority control included?	Not full, but have cross reference structure for corporate name and title. Can add anything people want.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Yes on input. Read in marc tapes and reformat.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes.

SCREENING QUESTIONNAIRE	SYSTEM: Denver, Univ. of
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational. 200,000 circs per year. Transaction based system at this point.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	Yes
3.3.4 Does the subsystem produce overdue notices automatically?	
3.3.5 Does the subsystem accomodate reserve loans? How?	
3.3.6 How does the subsystem accomodate hold requests?	
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Yes.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	Yes. Can get holdings, call #'s, issue status. Book status and order status, too.

SCREENING QUESTIONNAIRE	SYSTEM: Denver, Univ. of
3.4.3 Does the system provide for author and title searching?	Yes.
3.4.4 Does the system provide for subject search? Under which functions?	No.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Fooled around with to some extent. Have some software working.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Operational.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	Yes. Renewals - no, but could. Automatic thru Faxon. Good batch link to Faxon by control #.

SCREENING QUESTIONNAIRE	SYSTEM: Denver, Univ. of
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	No. Only current payment retrievable field. But notes field is used to keep this.
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes.
3.5.5 Does the subsystem provide for claiming? Automatically?	Yes. Semi-automatic. Reacts to an expectation date.
3.5.6 Does the system provide for inventory control of individual pieces?	Yes.
3.5.7 Does the subsystem handle binding? How?	Less complete than Faxon & NOTIS or UCLA. Manual change of codes.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes. Totally updatable.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	In part. Public access programs network the files through interactive processes.

SCREENING QUESTIONNAIRE	SYSTEM: Denver, Univ. of
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	B6700 in shared environment; 250K segment 1 45MByte disc.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	

SCREENING QUESTIONNAIRE	SYSTEM: Denver, Univ. of
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	B6700/segment 1 45 M disc 7 Data Media CRT's (hardwired via 9600 Band async. loop and Prentice Driver) Several dial access terminal. 1 Diablo printer 3 RPI wands w/above CRT's
4.5 What is the minimum software cost to get system replication started?	About $5,000 plus consulting help needed at a daily fee basis.
4.6 Describe briefly the support provided for replication?	Not determined.
4.7 What program languages are utilized in the software?	ALGOL
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	
4.9 Are functions handled mostly by on-line terminals?	Yes.

Not interviewed: Screen based on written and earlier verbal input.

SYSTEM: DOBIS
CONTACT: Helene Kerr
TELEPHONE:

SCREENING QUESTIONNAIRE

1.0 System specific questions. How would you compare file structure and design to Marvel?	
2.0 Brief description of system.	Comprehensive Acq., Cat., Circ. System.
2.1 Is the system available for replication elsewhere?	Yes
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operational, but not operating anywhere in U.S.
3.1.2 Does the subsystem provide for fund control?	Yes
3.1.3 Does the system include automatic duplicate checking?	Yes
3.1.4 Does the subsystem provide automatic claiming?	Yes
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes

SCREENING QUESTIONNAIRE — SYSTEM: DOBIS

3.2 Cataloging	
3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	As a subsystem.
3.2.2 How is authority control included?	Written into the system in such a manner that as records are input they are carefully filtered through auth. control. File management approach uses distributed bibliographic records.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Input, yes. Output, no.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes. By escape sequences.

SCREENING QUESTIONNAIRE	SYSTEM: DOBIS
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational at Ryder Junior College under Centenial version.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	N/A
3.3.4 Does the subsystem produce overdue notices automatically?	Yes
3.3.5 Does the subsystem accomodate reserve loans? How?	Yes
3.3.6 How does the subsystem accomodate hold requests?	Yes
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Yes
3.4.2 Has the public access facility been used in an actual library environment by patrons?	No

SCREENING QUESTIONNAIRE	SYSTEM: DOBIS
3.4.3 Does the system provide for author and title searching?	Yes.
3.4.4 Does the system provide for subject search? Under which functions?	Yes.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Yes. Indexes of keywords. Truncated terms.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	None
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	

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SCREENING QUESTIONNAIRE	SYSTEM: DOBIS
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	
3.5.4 Does the subsystem handle issue receipt; check-in?	No
3.5.5 Does the subsystem provide for claiming? Automatically?	No
3.5.6 Does the system provide for inventory control of individual pieces?	Not below volume level
3.5.7 Does the subsystem handle binding? How?	No
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	No
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Files are integrated.

SCREENING QUESTIONNAIRE	SYSTEM: DOBIS
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Mutual use of common files.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	370 or 3033 or 4300 processor. Partition of 370.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	No. No support at all.

SCREENING QUESTIONNAIRE	SYSTEM: DOBIS
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	4300
4.5 What is the minimum software cost to get system replication started?	$49,500
4.6 Describe briefly the support provided for replication?	None
4.7 What program languages are utilized in the software?	PL-1
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	CICS
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed 1-5-81

SCREENING QUESTIONNAIRE

SYSTEM: GEAC Canada, Ltd.
CONTACT: Bob Defmarais
TELEPHONE: (416) 495-0525

1.0 System specific questions.	
Equipment?	GEAC
Support?	May be inadequate for Southeast US. Equipment support Atlanta.
Replicated?	Yes
Functions: Ser Acq Cat Circ?	Acq., Circ.
Source code available?	Yes.
Where installed?	Guelph, Univ. of Waterloo.
2.0 Brief description of system.	Basically a general purpose computer based circulation system, with acquisition module. Designed to operate on vendor's equipment.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Testing. Installed at Univ. of Guelph for over a year. Demo to be at ALA Midwinter, 1980. (Release one) Currently enhancing for several other installations.
3.1.2 Does the subsystem provide for fund control?	Yes. Full fund accounting. Foreign currency table.
3.1.3 Does the system include automatic duplicate checking?	No.
3.1.4 Does the subsystem provide automatic claiming?	Automatic alert to staff.
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Yes.
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes.

SCREENING QUESTIONNAIRE | SYSTEM: GEAC Canada, Ltd.

3.2 Cataloging	
3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	Not fully. Link to OCLC. New data entry module now coming up to load full marc. Univ. of AZ has terminal interface - RS232.
3.2.2 How is authority control included?	Not included yet. On-line public cat. module under development for late 1981 or early 1982.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Input only, basically stripped from MARC. Coming up with full Marc support in data entry module at Univ. of Waterloo. Current system does not support full MARC records. Can build data base thru OCLC tapes or on-line.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes. As characters, but not as records.

SCREENING QUESTIONNAIRE	SYSTEM: GEAC Canada, Ltd.
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes.
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	Batch or on-line. Most academic libraries use registrar's tape to update.
3.3.4 Does the subsystem produce overdue notices automatically?	Yes. Automatically.
3.3.5 Does the subsystem accomodate reserve loans? How?	Designed in. Each course professor has an ID and items are charged to that. For more than one course, there are links. All transactions w/varying loans, etc. taken care of. Has been taking care of reserve room loans from day one.
3.3.6 How does the subsystem accomodate hold requests?	Yes. At two to three levels - agency, system wide, or copy specific. Can vary activation date .
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Yes. For bibliographic, borrower and reserve data.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	Yes at Guelph and others including Queens Univ. in Kingston - over 70 terminals set up for public access.

SCREENING QUESTIONNAIRE	SYSTEM: GEAC Canada, Ltd.
3.4.3 Does the system provide for author and title searching?	Yes. Left to right search on full author and title fields. Ignores words on basis of stop-list.
3.4.4 Does the system provide for subject search? Under which functions?	Yes. By call # and subject terms under all functions. Could be LC terms or whatever is in subject field.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Author and title keys.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Not yet planned. But is being required by Waterloo & York University. Early phase of systems phase. 1½ years away.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	In acquis. module can handle continuations & s/o's.

SCREENING QUESTIONNAIRE	SYSTEM: GEAC Canada, Ltd.
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	Probably not.
3.5.4 Does the subsystem handle issue receipt; check-in?	No.
3.5.5 Does the subsystem provide for claiming? Automatically?	No.
3.5.6 Does the system provide for inventory control of individual pieces?	No.
3.5.7 Does the subsystem handle binding? How?	No.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes. Handles basic bibliographic information in same manner as monographs.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Yes. Marc data base not integrated at this time, about 18 mos. away.

SCREENING QUESTIONNAIRE	SYSTEM: GEAC Canada, Ltd.
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Mutual use of common files for the most part.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	GEAC 6000 or 8000 processor. CDC disc. Kennedy Tape drive. Informer terminal. All maintenance by GEAC or an agent of GEAC.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	The communications processor facilitates networking but not software yet available. Has a community access module on dial-up. Waterloo has effected a link. Need ASCAI Terminals.
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	Not completely. Will set up joint project approach. Most development handled by GEAC on basis of library specs. Maintenance: modem on installation allows access by GEAC. Automatic enhancements to modules are not charged to library. Provide programming training as well. New modules are charged for.

SCREENING QUESTIONNAIRE	SYSTEM: GEAC Canada, Ltd.
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	GEAC 8000 disc drive, tape drive, line printer, processors, 300,000 titles, 1,000,000 vol, etc. 11,000 users, 200,000 circs. GEAC 8000 (maybe 6000), 675 M disc, 1 Mbyte memory, tape drive printer, 24 terminals. GEAC 8000 can grow to 2 M memory: 10-675M discs. About $227,000 GEAC 6000, 2 - 160 MByte disc w/Acquis $175,000 Circ 10 term
4.5 What is the minimum software cost to get system replication started?	$50,000
4.6 Describe briefly the support provided for replication?	Pre=installation report on environmental needs. Systems people help staff set up policy parameters. Operator training - ribbons, forms, etc. - need technical orientation. Training for circ. and data entry. Atlanta or closer for hardware support. (GEAC 8000 is a general purpose computer which requires A/C.)
4.7 What program languages are utilized in the software?	Own programming language (ZOPL) HUGO at application level. File management system (UGLY) level. Close to Bell's "C" lang.
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	O.S. is tailored to the application area.
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed: 1-5-81

SCREENING QUESTIONNAIRE

SYSTEM: ISI (Institute for Scientific Information) Phil., PA
CONTACT: Susan Jones
TELEPHONE: 215/386-0100

1.0 System specific questions.	
Equipment?	IBM 370/148
Support?	No
Replicated?	No
Functions: Ser Acq Cat Circ?	Serials
Source code?	N/A
2.0 Brief description of system.	Serials controls system not marketed. 6500 titles received and controlled. Has bibl. record, and access. An-in-house, in-process control system, based on locally defined record.
2.1 Is the system available for replication elsewhere?	Not yet, but hopefully will be. No time frame.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	None. Put out record w/note - jour on order. Not high priority.
3.1.2 Does the subsystem provide for fund control?	
3.1.3 Does the system include automatic duplicate checking?	
3.1.4 Does the subsystem provide automatic claiming?	
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	

SCREENING QUESTIONNAIRE	SYSTEM: ISI (Institute for Scientific Information) Phil., PA
3.2 Cataloging	
3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	Not linked
3.2.2 How is authority control included?	Has cross references with a heirarchy.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	No. ISI record structure.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	

SCREENING QUESTIONNAIRE	SYSTEM: ISI (Institute for Scientific Information) Phil., PA
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Programming being written to provide for circulation.
3.3.2 Does the subsystem maintain a bo-row file on-line?	
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	
3.3.4 Does the subsystem produce overdue notices automatically?	
3.3.5 Does the subsystem accomodate reserve loans? How?	
3.3.6 How does the subsystem accomodate hold requests?	
3.4 Search	
3.4.1 Does the system provide for public use terminals?	No.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	No.

SCREENING QUESTIONNAIRE	SYSTEM: ISI (Institute for Scientific Information) Phil., PA
3.4.3 Does the system provide for author and title searching?	Full title access. Abbreviated.
3.4.4 Does the system provide for subject search? Under which functions?	No.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Sort of: based on abbreviations. Also sort key algorithm to pick up a screen of choices.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Operational.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	No.

SCREENING QUESTIONNAIRE	SYSTEM: ISI (Institute for Scientific Information) Phil., PA
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	No.
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes.
3.5.5 Does the subsystem provide for claiming? Automatically?	Yes.
3.5.6 Does the system provide for inventory control of individual pieces?	Yes.
3.5.7 Does the subsystem handle binding? How?	No.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	

SCREENING QUESTIONNAIRE

SYSTEM: ISI (Institute for Scientific Information) Phil., PA

3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.

4.0 Hardware/Software

4.1 Describe briefly the hardware architecture.

4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?

4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.

SCREENING QUESTIONNAIRE

SYSTEM: ISI (Institute for Scientific Information) Phil., PA

4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?

4.5 What is the minimum software cost to get system replication started?

4.6 Describe briefly the support provided for replication?

4.7 What program languages are utilized in the software?

4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?

4.9 Are functions handled mostly by on-line terminals?

Interviewed 12/18/80

SYSTEM: Maggie
CONTACT: Ken Dowlin
TELEPHONE: 303/473-2080

SCREENING QUESTIONNAIRE

1.0 System specific questions. Replicated?	No. Could be considered further, but extensive additional development is required on equipment unfamiliar to Clemson.
2.0 Brief description of system.	Integrated acq, circ, management system with processing and financial control. Has very limited patron access.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operational.
3.1.2 Does the subsystem provide for fund control?	Yes.
3.1.3 Does the system include automatic duplicate checking?	Within on-order file; as order goes in doesn't replicate.
3.1.4 Does the subsystem provide automatic claiming?	Requires staff intervention.
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Own.
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: Maggie

3.2 Cataloging 3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	Link to mini-MARC. From either system there is common access to one disc file.
3.2.2 How is authority control included?	Not included. Being developed by grant. By Summer 1981.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Yes. On input. Cataloging is an area still being worked on. Haven't developed output yet. No problems, but some philosophical decisions based on timing studies need to be made. A routine now useable, works well when only two terminals involved.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	I/O doesn't, computer does. Differential is terminals. Replication requiring ALA character set would only be a problem in terms of buying more expensive terminal.

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SCREENING QUESTIONNAIRE	SYSTEM: Maggie
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational. New version in October, handles 128 terminals.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes.
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	Probably. Don't need to at Pikes Peak.
3.3.4 Does the subsystem produce overdue notices automatically?	Yes. Batched at night. Bills require human intervention.
3.3.5 Does the subsystem accomodate reserve loans? How?	No.
3.3.6 How does the subsystem accomodate hold requests?	Yes.
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Yes.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	Yes, in limited fashion.

SCREENING QUESTIONNAIRE	SYSTEM: Maggie
3.4.3 Does the system provide for author and title searching?	Yes. Same strategies under each function.
3.4.4 Does the system provide for subject search? Under which functions?	Not yet.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	No.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Serials control is provided under acquisitions and circulation.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	Yes. Yes. Yes.

SCREENING QUESTIONNAIRE	SYSTEM: Maggie
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	Not sure.
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes. Enter date received. Periodical is anything more than quarterly.
3.5.5 Does the subsystem provide for claiming? Automatically?	Yes. Operator intervention required.
3.5.6 Does the system provide for inventory control of individual pieces?	No, but can put in holdings info to indicate missing issues.
3.5.7 Does the subsystem handle binding? How?	No.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Yes. All menu driven. Resource files have read components available to all. Modification can only be handled by staff in acquisitions and periodicals units.

SCREENING QUESTIONNAIRE	SYSTEM: Maggie
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Mutual use of common files.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	PDP-11/70 w/55 terminals. 3 disc drives, 1 tape drive. Uses Hazeltine and Informer terminals. 6 light pens (Monarch)
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	None.
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	Under contract. Hardware maintenance through DEC.

SCREENING QUESTIONNAIRE	SYSTEM: Maggie
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	PDP 11/70.
4.5 What is the minimum software cost to get system replication started?	$54,000
4.6 Describe briefly the support provided for replication?	Help with installation including training. And contract arrangements for further info.
4.7 What program languages are utilized in the software?	Basic.
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	DEC's RSTS/E version 7.0
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed 12-19-80

SYSTEM: Marvel
CONTACT: Dave Bishop
TELEPHONE: 404/542-2716

SCREENING QUESTIONNAIRE

1.0 System specific questions. **Functions: Ser Acq Cat Circ** **Replicated?**	Serials, Acquisitions, Circulation. No.
2.0 Brief description of system.	A processing system. Strength is in fiscal accounting, in-process file, on order file and good strong coordinated circ. Will be tested by setting up as a union catalog system for University System catalog. Takes a dedicated IBM 370/148. Very table driven and generalized. Complexity and elegance cause bad response time. See Jan 79 JOLA article.
2.1 Is the system available for replication elsewhere?	
3.0 Functions	
3.1 Acquisitions 3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem? 3.1.2 Does the subsystem provide for fund control? 3.1.3 Does the system include automatic duplicate checking? 3.1.4 Does the subsystem provide automatic claiming? 3.1.5 Does the subsystem manage its own vendor file or link to an external file? 3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Interview terminated. Need for dedicated IBM 370 and non-replication eliminates Marvel as good possibility.

Not interviewed: screen based on written response of Sept. 16, 1980

SCREENING QUESTIONNAIRE

SYSTEM: NOTIS (Northwest Univ)
CONTACT: Velma Veneziano
TELEPHONE: 312/492-7642

1.0 System specific questions. Replicated?	Yes. National Library of Argentina.
2.0 Brief description of system.	NOTIS (Northwestern on-line total integrated system). Acq, serials control, public access, circulation on-line.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operational.
3.1.2 Does the subsystem provide for fund control?	Yes as expenditure and encumbrance reports, not truly complete fund accounting system.
3.1.3 Does the system include automatic duplicate checking?	N/A.
3.1.4 Does the subsystem provide automatic claiming?	Yes.
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Own file maintained off line.
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes.

SCREENING QUESTIONNAIRE	SYSTEM: NOTIS (Northwest Univ.)
3.2 Cataloging 3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	As a subsystem. Link to LC tapes - soon RLIN.
3.2.2 How is authority control included?	Not yet included, but work underway due to be available by Dec. 1980. MARC authority file is now implemented on-line.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Yes on both. Takes LC MARC tapes as input. Can produce records or catalog cards as output. Bibliographic record is 100% LC MARC.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes.

SCREENING QUESTIONNAIRE	SYSTEM: NOTIS (Northwest Univ.)
3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	Operational.
3.3.2 Does the subsystem maintain a bo-row file on-line?	Yes.
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	Yes. This is the routine procedure w/NOTIS.
3.3.4 Does the subsystem produce overdue notices automatically?	
3.3.5 Does the subsystem accomodate reserve loans? How?	
3.3.6 How does the subsystem accomodate hold requests?	
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Yes.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	Yes. Based upon user experience system has been updated.

SCREENING QUESTIONNAIRE	SYSTEM: NOTIS (Northwest Univ.)
3.4.3 Does the system provide for author and title searching?	Yes.
3.4.4 Does the system provide for subject search? Under which functions?	Not yet.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	No 1. Florida is planning to use BRS software against files.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Operational.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	Yes. Yes. Yes.

SCREENING QUESTIONNAIRE	SYSTEM: NOTIS (Northwest Univ.)
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes.
3.5.5 Does the subsystem provide for claiming? Automatically?	Yes.
3.5.6 Does the system provide for inventory control of individual pieces?	Yes.
3.5.7 Does the subsystem handle binding? How?	Yes, but not as completely as Clemson requirements. Does not produce binding tickets: does produce picking list. Records items to bindery by checking out through circ system.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: NOTIS (Northwest Univ.)

3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	In some places mutual use of common files. In other cases transfer is made via data merger.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	In shared environment was operated on 370/138 in 512K partition. Now on 4331 with 1 M main memory. 60 terminals. IBM 1030's for circ. IBM 3270's otherwise. Nearly all can run in 64 Kbyte partition except when VSAM access in use.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	IBM utility.
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	No. A few days assistance at installation.

SCREENING QUESTIONNAIRE	SYSTEM: NOTIS (Northwest Univ.)
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	IBM 4331
4.5 What is the minimum software cost to get system replication started?	Not sure, approximately $5,000.
4.6 Describe briefly the support provided for replication?	Two to three days on-site, documentation and some consultation.
4.7 What program languages are utilized in the software?	Assembly.
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	CICS required. DOS/VS version but can run under OS/VS with little modification.
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed 12-19-80

SYSTEM: Pittsburgh, Univ. of
CONTACT: Ken Laffey
TELEPHONE: 412/624-4400 x 4458

SCREENING QUESTIONNAIRE

1.0 System specific questions.	
Equipment?	PDP/10
Replicated?	No.
Functions: Ser Acq Cat Circ	Acq. Circ. Serials.
Source code available?	Yes.
2.0 Brief description of system.	Piecemeal. On-line circ. Order entry feeding files. Serials - subscription file - payment history, etc. Union list thru PRLC. Not integrated. No serials check-in in immediate plans.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Interview terminated. Basically a circulation system and fund control system. Too incomplete and operates on non-IBM equipment, thus not substantially high enough candidate for Clemson.
3.1.2 Does the subsystem provide for fund control?	
3.1.3 Does the system include automatic duplicate checking?	
3.1.4 Does the subsystem provide automatic claiming?	
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	

Interviewed 1-5-81

SCREENING QUESTIONNAIRE

SYSTEM: Recon/Stims (Informatics, Inc.)
CONTACT: Frank Pezzanite
TELEPHONE: 301/770-3000 x 384

1.0 System specific questions.	
Equipment?	Intel Machine.
Support?	Not fully documented.
Replicated?	No.
Functions: Ser Acq Cat Circ?	Serials, acquis, and cataloging.
Source code available?	MARC 4 - produces COM catalogs - etc. by batch. Replicated several places.
2.0 Brief description of system.	2nd version is an interactive TSO system to provide for funding and tracking control of serials. Heavily fund accounting capability. Weak on projection. Unmarketed in-house system. Work a lot with special libraries.
2.1 Is the system available for replication elsewhere?	Not yet sure.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operational.
3.1.2 Does the subsystem provide for fund control?	Yes.
3.1.3 Does the system include automatic duplicate checking?	No. Not needed for current customers.
3.1.4 Does the subsystem provide automatic claiming?	Yes.
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	Yes.
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: Recon/Stims (Informatics, Inc.)

3.2 Cataloging 3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	Indirectly. Link to Mini-MARC. Batch transfer.
3.2.2 How is authority control included?	
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Internal record structure is an enhanced record which has more than MARC record. Can load.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: Recon/Stims (Informatics, Inc.)

3.3 Circulation

3.3.1 What is the status of the circulation subsystem?

Not part of system but do in-process work which is analgous to circ.

3.3.2 Does the subsystem maintain a bo-row file on-line?

3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?

3.3.4 Does the subsystem produce overdue notices automatically?

3.3.5 Does the subsystem accomodate reserve loans? How?

3.3.6 How does the subsystem accomodate hold requests?

3.4 Search

3.4.1 Does the system provide for public use terminals?

3.4.2 Has the public access facility been used in an actual library environment by patrons?

SCREENING QUESTIONNAIRE	SYSTEM: Recon/Stims (Informatics, Inc.)
3.4.3 Does the system provide for author and title searching?	Yes.
3.4.4 Does the system provide for subject search? Under which functions?	No. Is expandable.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Produce a batch KWOC index.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Operational. Early system is batch oriented.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	Yes. Yes. Yes.

SCREENING QUESTIONNAIRE	SYSTEM: Recon/Stims (Informatics, Inc.)
3.5.3 Does the subsystem provide for payment history for serials? To what extent?	Yes. Weekly status & other reports. Inquire on-line as well.
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes.
3.5.5 Does the subsystem provide for claiming? Automatically?	In theory yes, but work it differently.
3.5.6 Does the system provide for inventory control of individual pieces?	Yes.
3.5.7 Does the subsystem handle binding? How?	Yes. Tracking.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Yes. All pretty much one system.

3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Mutual use of common files.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	Talk to Bob Larsen. VSAM/TSO
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	

4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	
4.5 What is the minimum software cost to get system replication started?	
4.6 Describe briefly the support provided for replication?	
4.7 What program languages are utilized in the software?	COBOL
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	
4.9 Are functions handled mostly by on-line terminals?	Yes.

Interviewed 1-6-81

SCREENING QUESTIONNAIRE

SYSTEM: UCLA
CONTACT: Jim Fayolatt
TELEPHONE: 213/825-6514

1.0 System specific questions.	
Equipment: IBM 370?	IBM 3033
Replicated?	Yes; at BYU but back in 1972.
Functions: Acq. Cat. Circ.	Serials, Acquis., Cataloging
2.0 Brief description of system.	Essentially a sophisticated bibliographic system with inventory control down to the specific issue level. Development thrust has been to evolve a bio-med system into UCLA wide system. Reluctant to offer software until further developed, but willing to explore possibilities.
2.1 Is the system available for replication elsewhere?	
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	Operating, but to be replaced by a new system integrated with OCLC.
3.1.2 Does the subsystem provide for fund control?	No.
3.1.3 Does the system include automatic duplicate checking?	
3.1.4 Does the subsystem provide automatic claiming?	
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	

SCREENING QUESTIONNAIRE	SYSTEM: UCLA
3.2 Cataloging	
3.2.1 Does the system handle cataloging as a subsystem or by link to a utility? Status? How linked?	Linked to OCLC. Receive tapes and load.
3.2.2 How is authority control included?	Under development.
3.2.3 Can the subsystem accomodate both input of Marc-2 records and output of machine readable Marc 2 records for monographs and serials? In what way and to what extent?	Input, yes. Part of current development work involves stripping MARC-II level records out of OCLC into acquisitions at the terminal.
3.2.4 Can the subsystem accomodate the full Marc-2 character set? How?	Yes. ANSI standard.

3.3 Circulation	
3.3.1 What is the status of the circulation subsystem?	CLSI.
3.3.2 Does the subsystem maintain a bo-row file on-line?	
3.3.3 Can the borrower file be updated by batch input of machine readable records; for instance from the university student master file?	
3.3.4 Does the subsystem produce overdue notices automatically?	
3.3.5 Does the subsystem accomodate reserve loans? How?	
3.3.6 How does the subsystem accomodate hold requests?	
3.4 Search	
3.4.1 Does the system provide for public use terminals?	Yes, but not user friendly.
3.4.2 Has the public access facility been used in an actual library environment by patrons?	Yes.

SCREENING QUESTIONNAIRE	SYSTEM: UCLA
3.4.3 Does the system provide for author and title searching?	Yes.
3.4.4 Does the system provide for subject search? Under which functions?	Yes.
3.4.5 Does the system provide for searching by keywords? Describe briefly.	Boolean capability on A, T, 260, 710 fields.
3.5 Serials	
3.5.1 What is the status of the serials subsystem?	Operating.
3.5.2 Does the system provide for acquisitions and fund control for serials? Renewals? Cancelation?	No.

3.5.3 Does the subsystem provide for payment history for serials? To what extent?	No.
3.5.4 Does the subsystem handle issue receipt; check-in?	Yes. Next predicted issue technique.
3.5.5 Does the subsystem provide for claiming? Automatically?	Yes. Not automatic all the time.
3.5.6 Does the system provide for inventory control of individual pieces?	Yes.
3.5.7 Does the subsystem handle binding? How?	Yes. But evolving dramatically right now.
3.5.8 Can bibliographic records be updated or modified through the serials subsystem?	Yes.
3.6 Integration	
3.6.1 Are all subsystems linked together as an integrated system?	Yes. But not with CLSI.

SCREENING QUESTIONNAIRE	SYSTEM: UCLA
3.6.2 For data which is common to separate functions, is the link provide by transfer or mutual use of common files? If transfer, how is this handled.	Combination. Can move records from file to file by terminal command.
4.0 Hardware/Software	
4.1 Describe briefly the hardware architecture.	IBM 3033 under TSO. Input via Wylbor.
4.2 If the system is mounted on stand alone hardware, what provision is made for linking to an IBM 3033?	
4.3 If the system is stand alone, does the vendor provide maintenance and enhancement completely? Describe the arrangement briefly.	

SCREENING QUESTIONNAIRE	SYSTEM: UCLA
4.4 What is the minimum equipment environment required to operate the system? Describe the equipment architecture?	Shared IBM 3033. 4 disc parts. Under MVS. 20,000/mo for operating.
4.5 What is the minimum software cost to get system replication started?	N/A
4.6 Describe briefly the support provided for replication?	N/A
4.7 What program languages are utilized in the software?	PL-1
4.8 Describe the operating system requirements briefly; ie CICS, IDMS required?	UCLA unique data-base management system.
4.9 Are functions handled mostly by on-line terminals?	Yes.

SCREENING QUESTIONNAIRE

SYSTEM: WLN
CONTACT: Ray DeBuse
TELEPHONE: 206/753-5595

1.0 System specific questions. **Software cost**	$250,000 for all presently coded. Not interviewed: Too expensive for Clemson and eventually available through RSS.
2.0 Brief description of system.	On-line cataloging system. Designed to comprise the four linked subsystems of: Bibliographic, acquisitions/accounting, circulation, and serials control.
2.1 Is the system available for replication elsewhere?	Yes.
3.0 Functions	
3.1 Acquisitions	
3.1.1 What is the status (planned, designed, writing, testing, operational) of the acquisitions subsystem?	
3.1.2 Does the subsystem provide for fund control?	
3.1.3 Does the system include automatic duplicate checking?	
3.1.4 Does the subsystem provide automatic claiming?	
3.1.5 Does the subsystem manage its own vendor file or link to an external file?	
3.1.6 Are order entry, receipt and invoice payment handled through an on-line terminal?	

FEATURES COMPARISON

Feature: Acquisitions

SYSTEM: Data Phase

Interviewed:
Steve Lassitor (Data Phase)
Nancy Eaton (Atlantic Public Library)

1.0 What types of orders are handled: 1.1 Subscriptions 1.2 Standing orders 1.3 Approval orders 1.4 Gifts 1.5 Monographs 1.6 Added copies 1.7 Microforms 1.8 Non-print media 1.9 Exchanges	The acquisitions system has been designed and speced under contract with Atlanta Public Library. Coding is underway as part of the version of the overall system which will result in ALIS-II. Bibliographic records can be entered during or prior to acquisition and item status can be set at "on order", "in process", or "in transit."
2.0 Files and records.	
2.1 Describe briefly the files and the file interrelationships.	Basically a bibliographic file containing records with a list of item ID's which point to item records. Searching based on A,T,S dictionaries. Each item in index has pointers to all appropriate bibliographic records. Patron file has two dictionaries. Circ file points to bibliographic file and to the patron file.
2.2 What information is in the basic acquisition record. 2.2.1 Title 2.2.2 Author 2.2.3 Publisher 2.2.4 Vendor 2.2.5 PO number 2.2.6 OCLC number 2.2.7 Order date 2.2.8 List price 2.2.9 Type of material 2.2.10 Fund 2.2.11 Renewal date 2.2.12 Requestor	N/A.

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: Data Phase
2.3 How are the acquisition files accessed? List the access points by which searching can be made.	
2.4 Is there a vendor file? What information does it have?	
2.5 How is the vendor file kept current?	
2.6 Can holdings information be displayed through the subsystem for both monographs and serials? Summary or detailed?	
2.7 Describe techniques used for subscription monitoring.	
3.0 Subsystem capability.	
3.1 Does the acquisition file keep track of cancellations? For how long? With reasons for cancellation?	
3.2 Does the system keep track of foreign currency conversion? How often updated?	
3.3 Does the system handle prepayments?	
3.4 Claims	
3.4.1 Does the system claim on a given schedule?	
3.4.2 What is it?	
3.4.3 Can it be adjusted?	

FEATURES COMPARISON

Feature: Acquisitions | SYSTEM: Data Phase

3.4.4 Can claims be reviewed before mailing?
3.4.5 How are claims formated?
3.4.6 How are re-orders for missing serials issues handled?
3.4.7 How is expected arrival of serials issues handled with regard to claiming?

3.5 Fund accounting

3.5.1 Does the system provide for fund accounting?
3.5.2 For how many levels of funds is there provision?
3.5.3 How many different funds can be accomodated?
3.5.4 What information does the fund accounting record contain?
3.5.5 Does the system handle encumbrances?
3.5.6 Can totals be carried over from year to year?
3.5.7 Can the system maintain a payment history for multiple payments on standing orders, subscriptions, etc?
3.5.8 Can overencumbrances be accomodated?
3.5.9 What kind of fund reports are available? Frequency?
3.5.10 Can separate fiscal year accounting be maintained?

FEATURES COMPARISON

Feature: Acquisitions

SYSTEM: Data Phase

3.6 Receiving	
3.6.1 How are partial shipments handled?	
3.6.2 How are returns and requests for credits handled?	
3.6.3 How are invoices handled?	
3.6.4 Does the system provide for serial issue check-in? By acceptance or next predicted issue?	
3.7 Ordering	
3.7.1 Are purchase orders generated on a regular schedule or on demand?	
3.7.2 What special order features are available?	
3.7.3 Does the system provide for automatic duplicate order detection? How?	
3.8 Are machine readable records from or to the supplier read into the system or generated by the system?	MARC records but not fund info.
4.0 What kind of management reports are generated?	In process status, outstanding order status provided records or input during or prior to acquisition.
4.1 Vendor performance	
4.2 Average price	
4.3 Fund status	
4.4 In-process status	
4.5 Outstanding orders	

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: Data Phase
5.0 Printed products	
5.1 Purchase orders	
5.2 Claims	
5.3 Cancellations	
5.4 Notification of receipt of items requested by specific patrons.	
5.5 Routing slips	
5.6 Reports on item status by vendor.	
6.0 Linkage to other subsystems	
6.1 What is the link to the cataloging subsystem?	
6.2 What is the link to public access subsystem?	
6.3 What is the link to circulation subsystem?	
7.0 Binding	
7.1 Does the system keep track of binding information for serials?	
7.2 Can binding slips be produced? Frequency?	
7.3 Can picking lists be produced? Frequency?	
7.4 Are picking lists and/or slips accompanied by binding purchase orders?	

FEATURES COMPARISON

Feature: Cataloging

SYSTEM: Data Phase

1.0 General knowledge	
1.1 Is the cataloging subsystem designed to stand on its own or to interface with a utility?	The system is designed to provide flexible and sophisticated maintenance of a MARC compatible bibliographic data base without being a cataloging system per se. It can stand on its own or link.
1.2 Describe the interface with on-line utilities such as OCLC.	Load OCLC archives tapes. 10 customers have RS232 link from OCLC print port to a system to hold file.
1.3 What access points are available for searching through the catalog-ing subsystem?	
1.3.1 Author 1.3.2 Title 1.3.3 LC card # 1.3.4 Series 1.3.5 OCLC # 1.3.6 Search key (describe)	Author, title, LC card #, call number, ISBN/ISSN number and subject. OCLC # is in 035 field. Updates match on this field in order to control duplicate records.
2.0 Record control	
2.1 Does the system allow for input of records independent of the acquisitions system?	Yes. By means of an original cataloging function; prompts input with MARC tags.
2.2 Do Marc tags and indicators display on the screen for catalog records?	Yes. There are seven MARC formats. Has specific prompts for each format.
2.3 Do mneumonics in lieu of MARC-II tags appear on the screen?	Yes, in inquiry function.
3.0 Authority control	
3.1 Is automated authority control provided in the system?	No. Yes in ALIS-II. Coming up at Univ. of Lowell. Creates provisional authority record which goes into a review file. Auth. file is separate file linked to bibliographic file by dictionary structure.
3.2 How long has it been in use?	
3.3 How many authority records are there now?	
a. Names/Uniform Title b. Subjects	Names & subjects. Nat'l Agricultural Liby - loaded through own file.

FEATURES COMPARISON

Feature: Cataloging — SYSTEM: Data Phase

3.4 Are the LC MARC-II authorities an input to the System? a. Names/Uniform Title b. Subjects	Yes.
3.5 What other sources of input are possible?	Any record defined & formated in LC MARC.
3.6 What do the authority records look like; ie., does the content support LC MARC authority format?	Yes.
3.7 Does the heading record have and display the sources of the heading; eg LC, local, etc.?	Not sure - probably.
3.8 Does the heading indicate the rules by which it was created?	Probably.
3.9 Are headings changed to prefered form automatically on input?	Yes.
3.10 Is an edit (screen or print) generated for new headings on input?	No. Not interactive.
3.11 When an authority record is changed, are all the linked records changed automatically?	Yes.
3.12 How are replacements of LC headings by local headings and vice versa handled?	N/A
3.13 Does the system automatically suppress blind reference?	Probably under manual review.
3.14 Are cross references automatically generated by the system?	
4.0 Retrospective conversion (recon)	
4.1 What are the recon input methods? a) batch b) on-line	Batch input of MARC records such as OCLC archive tapes, and online input of full records as in 2.1 above.

FEATURES COMPARISON

Feature: Cataloging	SYSTEM: Data Phase
4.2 What are the recon access keys for on-line and batch? a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system ID no.	All.
4.3 What ability does the system have for searching a utility and building records for recon input?	Can search OCLC, retrieve records via archive tapes, or from print port. Atlanta Public has established link via hardware from OCLC terminal print port to ALIS hardware - an on-line creation of batch input file process.
4.4 Describe the minimum data requirements for recon input.	
4.4.1 Batch	Basic MARC record. Minimum has to have at least one access point.
4.4.2 On-line	
4.5 Can the system accept MARC-II records as direct input?	Yes.
4.6 What would be involved in the use of fixed field circulation book cards as input to create an initial data base?	Have taken a couple and massaged into skeletal records. Have also taken Tacoma approach.
5.0 Batch products	
5.1 Are book labels produced by the system?	No.
5.2 Spine labels?	No.
5.3 Edit lists?	Yes, under various subfunctions. Mostly error reports under batch programs.
5.4 How are records selected for edit lists?	Error proofing in some cases. Manual review in others.
5.5 What information is included in edit lists?	Varies.
5.6 How frequently are they produced?	On demand.
5.7 Are edit lists accompanied by error listings? When?	Yes.
5.8 Is is possible to produce tapes of records in the MARC-II format for use in generating COM catalogs or other products?	Yes.

FEATURES COMPARISON

Feature: Circulation	SYSTEM: Data Phase
1.0 Does the system have the following functions in operation now?	System handles all of these except A/V bookings, ILL, Carrels/lockers. Will handle A/V bookings in the sense that the bibliographic records for A/V can be handled and items loaned in the circulation function. Will develop a true A/V bookings system later.
1.0.1 Charge	
1.0.2 Discharge	
1.0.3 Renew	
1.0.4 Holds	
1.0.5 Reserves	
1.0.6 A/V bookings	
1.0.7 Interlibrary loan	
1.0.8 Branch	
1.0.9 Fine calculation & payment	
1.0.10 Recall	
1.0.11 Carrels/lockers - can be	
1.0.12 In-processing monitoring	basic design philosophy of acquisitions
1.0.13 Record-reshelving count	gives discharge statistics
1.1 What are the loan periods available?	Variable. Established by library on installation. Can be as short as necessary.
1.2 What are the types of borrowers?	Varies.
1.3 How is the book charged if either the book has no circulation id or borrower does not have his card?	On-the-fly conversion for book. Immediate input of patron info or keying of ID # for patron. When a record for Book is in the system this could be sticky; ie, if the circulation id is lost and there are multiple copies some detective work is required.
2.0 Book information	
2.1 What is the book id used; bar code, book card, etc.?	OCR label preferred. Bar code also useable. Use of book card would require some reprogramming and non-typical hardware.
2.2 What is the book or title record format?	MARC-II
2.2.1 fixed or variable	
2.2.2 maximum characters (average characters)	
2.2.3 Marc format	

FEATURES COMPARISON

Feature: Circulation	SYSTEM: Data Phase
2.2.4 Derived from MARC-II	
2.2.5 Data compression - what?	
2.3 What information is in the circulation record?	Full MARC record tied to circulation record with item specific information including location, media code, prefix, price, item ID, and item note, and call number.
2.4 What are the access points to the circulation file?	
2.4.1 author	
2.4.2 title	
2.4.3 ISBN	All. Search key is a left to right character by character match on author, title, and subject fields.
2.4.4 book number	
2.4.5 call number	
2.4.6 search key (describe)	
2.4.7 subjects	
3.0 Borrower Information	
3.1 What is the borrower card identification? Bar code label on student card identification, id card, etc?	OCR label on either student ID or on other ID card. Can't mix OCR and bar code (codabar).
3.2 What is the patron or borrower record format?	Data fields are variable. Screen fixed.
a) fixed or variable	
b) max &/or average characters	
3.3 What information is in the borrower file?	Records with patron id number, status, dates, and two addresses.
3.4 How is the borrower file accessed?	By name or ID #. ALIS-II will have alternate ID # such as social security.
a) patron name	
b) patron ID number	
3.5 Describe the nature of the link between the system and borrower information captured in institution level files; ie, university staff or student data bases?	The system maintained borrower file can be updated by batch input of records retrieved from institution level files.

FEATURES COMPARISON

Feature: Circulation

SYSTEM: Data Phase

3.6 How are fine payments handled by the system?	Discharge function will calculate and display fine due.
4.0 Printed Output	
4.1 Does the system generate a date due slip?	Can do with a printer.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	Yes. 1st, 2nd, and 3rd on demand. Also statement of account.
4.3 Recall notices	Yes.
4.4 Fine notices	Yes.
4.5 Hold availability?	Yes.
4.6 Management reports?	Numerous management reports including collection analysis reports. System can produce:
4.6.1 Circulation statistics	Patron reports Circulation reports Collection reports Item status reports Overdue items reports Hold reports Branch-to-branch Loan reports Fine reports Cassette reports (cassette backup exception report) Update tape reports Reserve book room reports.
4.6.2 Weeding lists	
4.6.3 More copies needed	
4.6.4 Other - describe	

FEATURES COMPARISON

Feature: File structure

SYSTEM: Data Phase

1.0 Indexes

1.1 What indexes are built by the system?

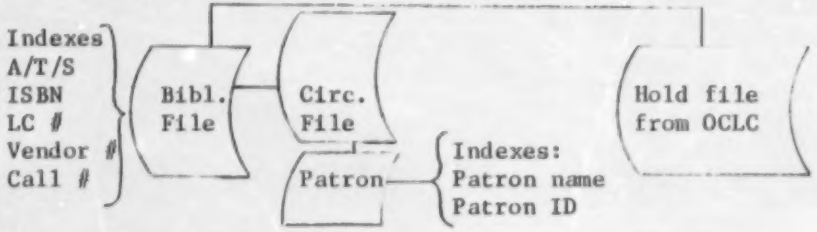
Bibl: A/T/S/ISBN/LC Card #/Vendor # (035 field)/Call #
Circ: same plus patron keys
Patron: name and id number

1.2 Which indexes are utilized by each subsystem?

1.3 How frequently are the indexes regenerated?

All are updated on the fly continually.

2.0 File Organization. Describe computer resource and user file structure. Diagram of file layout, attachments numbered.



3.0 File Maintenance

3.1 How frequently are the source files updated?

Continuously on the fly except OCLC on-line procedure.

3.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing or instantly?

Instantly.

4.0 File Security

4.1 How would you know if you lost data?

Partly disc to disc back-up. Tape log of important transactions.

4.2 When was the last time you lost data that was unrecoverable?

Never had a head crash. Few cases of lost data due to procedural mistakes.

4.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.

Have two password sign on and authorization levels for everything.

4.4 Are authorization levels available to control access to and/or update of records?

Yes.

FEATURES COMPARISON

Feature: File structure

SYSTEM: Data Phase

5.0 Links	
5.1 What files are linked?	All totally integrated. ALIS-2 even more lateral.
5.2 Describe the links with files in other computer systems.	None now. Only communicate w/other Data Phase. D.G. hard to effect comm. cause of operating system.
5.3 Describe the capacity for linking with student data base, financial information systems, etc.	Can load data off-line provided reformated first.
5.4 Describe the capability for linking with the SOLINET Regional Support System?	Under MITS there is no capability for networking; the software requires dedication of the machine.
6.0 Record management	
6.1 Is the bibliographic file LC MARC compatible?	Yes.
6.2 Which MARC formats are fully supported; which not?	Monographs, serials, maps, music, sound recordings, A/V, manuscripts, and Authorities.
6.3 What data fields have been dropped from or added to the LC MARC format?	None.
6.4 What data fields have been changed in the LC MARC format?	Some added or modified based on OCLC.
6.5 What fields are set up to be used for unique local data?	Several in acquisitions and circulation.
6.6 Describe the basic bibliographic record structure.	MARC-II
6.7 Describe automatic checks that are made to assure good quality records.	Encoding level check.
6.8 How are duplicate records identified?	By LC card # and vendor #, under batch will watch on these fields.
6.9 What output is initiated as duplicate records are detected?	When starting batch input, can tell it how to handle dup's.

FEATURES COMPARISON

Feature: File structure	SYSTEM: Data Phase
6.10 Describe the general terminal input procedure for bibliographic records.	Keying from worksheet against blank workform or hits on preloaded data base.
6.11 Are access numbers stored in the bibliographic record?	Yes.
6.12 What standards were adopted for holdings records?	Own format in item records. No serials holdings record.

FEATURES COMPARISON

Feature: Public Access	SYSTEM: Data Phase
1.0 Does the system provide for public access?	Yes. Being enhanced in ALIS-II.
2.0 Search	
2.1 What files are available for searching? Bibliographic, acquisitions, circulation, etc.	All bibliographic data. At library option patron file by label scan of ID.
2.2 How can the files be searched?	By patron or patron ID. By A/T/Subj/ISBN/ISSN/call # and LC card #.
2.3 Is there a search only capability?	Yes.
2.4 Is it possible to browse through files? Which ones?	Yes. A/T/Subj/Call # by variable search key.
2.5 Can one browse through the authority files, and then display bib records?	Yes. One index file points to authority records and to bibliographic records also.
2.6 Does the system handle Boolean truncated key, keyword, etc. searches?	Truncated terms to search left to right, character by character.
2.6.1 What are the limits to the use of the Boolean capability - size and procedures?	No Boolean. Will be available in ALIS-II.
2.6.2 What are truncated keys?	Any key length
2.6.3 What fields are searched by search keys?	Author, title, series, subject.
2.7 Is there a novice and expert method of searching?	No. All menu driven.
2.8 Is the search logic designed for the public or for library employees?	For library employees. ALIS-2 public access improved.
2.9 Is anyone presently using the system for direct patron inquiry?	Stephen F. Austin University, Greensboro, NC public

FEATURES COMPARISON

Feature: Public Access	SYSTEM: Data Phase
2.10 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	Yes. Can go back to index display under ALIS-2.
2.11 Can the results of one search be the argument of another finer search?	N/A
3.0 System messages and display	
3.1 Does the system prompt the user?	Yes.
3.2 Is there menu selection for functions?	Yes.
3.3 Are the system explanations expandable, i.e., novice and expert?	Same places were ? is input system will respond with clearer explanation.
3.4 If the system retrieves more than one match, what information is displayed?	Expands from brief to full on three levels.

FEATURES COMPARISON

Feature: Acquisitions SYSTEM: DOBIS/LIBIS

1.0 What types of orders are handled:	Any material type that the user wishes to define up to six material types. Larger non-standard control tables could be developed.
1.1 Subscriptions 1.2 Standing orders 1.3 Approval orders 1.4 Gifts 1.5 Monographs 1.6 Added copies 1.7 Microforms 1.8 Non-print media 1.9 Exchanges	
2.0 Files and records.	
2.1 Describe briefly the files and the file interrelationships.	Two access-point files: vendor and library fund, and an order file are used in addition to the bibliographic files. Because holds may be placed on copies on order, the circulation files (borrower name and number, circulation) should also be present.
2.2 What information is in the basic acquisition record.	
2.2.1 Title 2.2.2 Author 2.2.3 Publisher 2.2.4 Vendor 2.2.5 PO number 2.2.6 OCLC number 2.2.7 Order date 2.2.8 List price 2.2.9 Type of material 2.2.10 Fund 2.2.11 Renewal date 2.2.12 Requestor	All the listed information is included except the OCLC number and requestor. A number of additional fields are also included. If a borrower has requested an unowned item a hold record is placed in the circulation file for the item being acquired.

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: DOBIS/LIBIS
2.3 How are the acquisition files accessed? List the access points by which searching can be made.	Access is provided by vendor, fund, borrower name and number (if ordered for a borrower), and all bibliographic access-point files, as well as by document number and order number.
2.4 Is there a vendor file? What information does it have?	Yes. Vendor name and address plus extensive information pertinent to vendor analysis including average cost, average turn around, and total purchasing information.
2.5 How is the vendor file kept current?	On-line.
2.6 Can holdings information be displayed through the subsystem for both monographs and serials? Summary or detailed?	Yes. Summary holdings. System does not accomodate issue specific or detailed periodical holdings.
2.7 Describe techniques used for subscription monitoring.	Users renewal date and established claiming policy to monitor order. Issue receipt and check-in after first issue is not monitored.
3.0 Subsystem capability.	
3.1 Does the acquisition file keep track of cancellations? For how long? With reasons for cancellation?	Yes. Indefinitely. Yes.
3.2 Does the system keep track of foreign currency conversion? How often updated?	Yes. Can be updated as often as desired by changes in the currency conversion table.
3.3 Does the system handle prepayments?	Yes. Need to set a code in the order entry.
3.4 Claims	
3.4.1 Does the system claim on a given schedule? 3.4.2 What is it? 3.4.3 Can it be adjusted?	The claims policy based on a table determines when first, second, and third claims are to be sent and when the order is to be cancelled automatically. It is also possible to cancel an order manually.

FEATURES COMPARISON

Feature: Acquisitions

SYSTEM: DOBIS/LIBIS

3.4.4 Can claims be reviewed before mailing?	Yes, up to library policy.
3.4.5 How are claims formated?	On-line formating facility.
3.4.6 How are re-orders for missing serials issues handled?	Like monograph order.
3.4.7 How is expected arrival of serials issues handled with regard to claiming?	First issue against subscription.
3.5 Fund accounting	
3.5.1 Does the system provide for fund accounting?	Yes.
3.5.2 For how many levels of funds is there provision?	One level
3.5.3 How many different funds can be accomodated?	
3.5.4 What information does the fund accounting record contain?	Fund, beginning date of fiscal period, amount changes, date of change, user making the change, amounts available, committed, spent, list of orders charged against the fund, list of debit and credit notes issued against the fund, number of copies received, average cost of a copy.
3.5.5 Does the system handle encumbrances?	Yes.
3.5.6 Can totals be carried over from year to year?	No. New set of funds can be set up to cover new FY.
3.5.7 Can the system maintain a payment history for multiple payments on standing orders, subscriptions, etc?	An unlimited number of partial shipments and partial bills can be accomodated for each order.
3.5.8 Can overencumbrances be accomodated?	Yes.
3.5.9 What kind of fund reports are available? Frequency?	Detailed and extensive reports on fund status available on-line.
3.5.10 Can separate fiscal year accounting be maintained?	Yes.

FEATURES COMPARISON

Feature: Acquisitions

SYSTEM: DOBIS/LIBIS

3.6 Receiving	
3.6.1 How are partial shipments handled?	An unlimited number of partial shipments and partial billings can be handled for each order.
3.6.2 How are returns and requests for credits handled?	Both credits and debits can be handled. Wrong receipts are noted on orders as needed and item returned.
3.6.3 How are invoices handled?	By an invoice received module which accepts pertinent invoice information at the terminal.
3.6.4 Does the system provide for serial issue check-in? By acceptance or next predicted issue?	No.
3.7 Ordering	
3.7.1 Are purchase orders generated on a regular schedule or on demand?	On demand from a queue.
3.7.2 What special order features are available?	
3.7.3 Does the system provide for automatic duplicate order detection? How?	Semi-automatic by virtue of the order input procedure.
3.8 Are machine readable records from or to the supplier read into the system or generated by the system?	DMARC formatted records can be batch entered. Not fund info.
4.0 What kind of management reports are generated?	All those listed can be determined by terminal inquiry with no hand copy output. No facility for average price on whole classes of books or materials can be handled. A report writer is also available in batch progams or LIBIS.
4.1 Vendor performance	
4.2 Average price	
4.3 Fund status	
4.4 In-process status	
4.5 Outstanding orders	

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: DOBIS/LIBIS
5.0 Printed products	Report writer can be used to accomodate some of these also.
5.1 Purchase orders 5.2 Claims 5.3 Cancellations 5.4 Notification of receipt of items requested by specific patrons. 5.5 Routing slips 5.6 Reports on item status by vendor.	Can generate all but routing slips and item status by vendor. PO's can be single title per PO or multiple.
6.0 Linkage to other subsystems	
6.1 What is the link to the cataloging subsystem? 6.2 What is the link to public access subsystem? 6.3 What is the link to circulation subsystem?	All the functions use the DOBIS files search, so there is an implicit link between acquisitions, cataloging and circulation. The same holds true for public access although user education is required.
7.0 Binding	
7.1 Does the system keep track of binding information for serials?	No.
7.2 Can binding slips be produced? Frequency?	No.
7.3 Can picking lists be produced? Frequency?	No.
7.4 Are picking lists and/or slips accompanied by binding purchase orders?	No.

FEATURES COMPARISON

Feature: Cataloging

SYSTEM: DOBIS/LIBIS

1.0 General knowledge	
1.1 Is the cataloging subsystem designed to stand on its own or to interface with a utility?	Designed to operate on its own for a single library or network. It can be made to interface provided means to reformat OCLC records into DMARC is accomodated.
1.2 Describe the interface with on-line utilities such as OCLC.	Unknown.
1.3 What access points are available for searching through the cataloging subsystem?	
1.3.1 Author	"Other number" field is available for input of OCLC number. All except OCLC #. Also Call #, ISBN, ISSN, Publisher, & subject. Search key (or any field) is any partial key on field from left to right.
1.3.2 Title	
1.3.3 LC card #	
1.3.4 Series	
1.3.5 OCLC #	
1.3.6 Search key (describe)	
2.0 Record control	
2.1 Does the system allow for input of records independent of the acquisitions system?	Yes.
2.2 Do Marc tags and indicators display on the screen for catalog records?	No.
2.3 Do mneumonics in lieu of MARC-II tags appear on the screen?	The system displays full word definition of bibliographic record descriptors.
3.0 Authority control	
3.1 Is automated authority control provided in the system?	Yes. Authority control is integrated in the file design. There is no separate mechanism for authority control. The access points are searched before new ones are input. They are linked to the bib record, and the relationship facility allows for cross references, and equivalencies.
3.2 How long has it been in use?	Since 1977.
3.3 How many authority records are there now?	
a. Names/Uniform Title	N/A, no file available.
b. Subjects	

FEATURES COMPARISON

Feature: Cataloging	SYSTEM: DOBIS/LIBIS
3.4 Are the LC MARC-II authorities an input to the System? a. Names/Uniform Title b. Subjects	No, but there is no reason why the LC MARC authorities cannot be input to the system. A conversion program is needed from LC MARC authorities to D-MARC.
3.5 What other sources of input are possible?	None
3.6 What do the authority records look like; ie., does the content support LC MARC authority format?	It does include bibliographic aspects but may drop MARC heading info.
3.7 Does the heading record have and display the sources of the heading; eg LC, local, etc.?	No, but can be handled in notes.
3.8 Does the heading indicate the rules by which it was created?	No, but can be handled in notes.
3.9 Are headings changed to prefered form automatically on input?	Yes.
3.10 Is an edit (screen or print) generated for new headings on input?	Yes. By nature of input process on screen.
3.11 When an authority record is changed, are all the linked records changed automatically?	Yes. In real time.
3.12 How are replacements of LC headings by local headings and vice versa handled?	Item by item thru terminal. Also can link local heading file to main records.
3.13 Does the system automatically suppress blind reference?	Yes.
3.14 Are cross references automatically generated by the system?	Yes.
4.0 Retrospective conversion (recon)	—
4.1 What are the recon input methods? a) batch b) on-line	On-line or batch if reformatted by a locally written program to DMARC.

FEATURES COMPARISON

Feature: Cataloging	SYSTEM: DOBIS/LIBIS
4.2 What are the recon access keys for on-line and batch? a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system ID no.	Machine-readable records can be added to DOBIS-LIBIS by converting them to DMARC format. The system will then load the records in the online files. These records can be searched exactly as all other records in the system. Same as for searching system files.
4.3 What ability does the system have for searching a utility and building records for recon input?	It would be necessary to retrieve records through the OCLC print port or by archive tape and reformat to DMARC.
4.4 Describe the minimum data requirements for recon input. 4.4.1 Batch 4.4.2 On-line	Skeletal DMARC record.
4.5 Can the system accept MARC-II records as direct input?	No. Need reformat to DMARC.
4.6 What would be involved in the use of fixed field circulation book cards as input to create an initial data base?	Would have to reformat into DMARC and fill numerous fields with default values. Especially difficult for Clemson as book cards lack author and DOBIS requires this field.
5.0 Batch products	
5.1 Are book labels produced by the system?	Can be produced on-line or batch mode.
5.2 Spine labels?	Could be produced on-line or batch mode.
5.3 Edit lists?	No.
5.4 How are records selected for edit lists?	
5.5 What information is included in edit lists?	
5.6 How frequently are they produced?	
5.7 Are edit lists accompanied by error listings? When?	
5.8 Is is possible to produce tapes of records in the MARC-II format for use in generating COM catalogs or other products?	Yes. LIBIS batch software includes COM catalog output product capability.

FEATURES COMPARISON

Feature: Circulation	SYSTEM: DOBIS/LIBIS
1.0 Does the system have the following functions in operation now?	
1.0.1 Charge	Yes.
1.0.2 Discharge	Yes.
1.0.3 Renew	Yes.
1.0.4 Holds	Yes.
1.0.5 Reserves	No.
1.0.6 A/V bookings	No.
1.0.7 Interlibrary loan	Yes.
1.0.8 Branch	Yes as a semi-permanent loan
1.0.9 Fine calculation & payment	Yes.
1.0.10 Recall	Yes.
1.0.11 Carrels/lockers	The borrower's name can be added to the end of the carrel name and
1.0.12 In-processing monitoring	Yes. notes in both entries can be used to link
1.0.13 Record-reshelving count	No. the carrel and the usual borrower record. With this technique, borrowers can have more than one carrel.
1.1 What are the loan periods available?	System allows six user defined periods, but the due date clock is daily, not hourly or less.
1.2 What are the types of borrowers?	Matrix of 6 material types with 10 borrower types.
1.3 How is the book charged if either the book has no circulation id or borrower does not have his card?	Either books or user ID can be keyed at the terminal.
2.0 Book information	
2.1 What is the book id used; bar code, book card, etc.?	Bar code lable (IBM bar font)
2.2 What is the book or title record format?	
2.2.1 fixed or variable	Variable
2.2.2 maximum characters (average characters)	256 bytes per field. Name, title fields up to 1,000 characters.
2.2.3 Marc format	While the format is not MARC, the MARC data fields can be added to the record if not already there.

FEATURES COMPARISON

Feature: Circulation SYSTEM: DOBIS/LIBIS

2.2.4 Derived from MARC-II	A conversion program can be written from LC MARC to D-MARC. DOBIS-LIBIS is an integrated system. This means that bibliographic information is not duplicated in the circulation module because the circulation programs can make use of the records already in the catalog.
2.2.5 Data compression - what?	
2.3 What information is in the circulation record?	In the copy level record there is copy number, master number, call number, call number supplement, notes, status type, status date, current location in the library, material type permanent location, plus systems holdings, and the system level bibliographic record and access points.
2.4 What are the access points to the circulation file?	
2.4.1 author	All
2.4.2 title	
2.4.3 ISBN	
2.4.4 book number	
2.4.5 call number	
2.4.6 search key (describe)	
2.4.7 subjects	
3.0 Borrower Information	
3.1 What is the borrower card identification? Bar code label on student card identification, id card, etc?	Bar code.
3.2 What is the patron or borrower record format?	
a) fixed or variable	Variable, no maximum length.
b) max &/or average characters	
3.3 What information is in the borrower file?	Borrower name, number, type, mailing address, other address, telephone number, codes for locally defined tables, date of last charge, whether blacklisted, whether borrower should be trapped, list of copies on loan, list of titles on hold, list of fines due, list of fines paid. The date the last time the record was changed (not 'lost charge'), notes, and the copy and title holds are also fields which are included in the borrower record.
3.4 How is the borrower file accessed?	
a) patron name	Both ways.
b) patron ID number	
3.5 Describe the nature of the link between the system and borrower information captured in institution level files; ie, university staff or student data bases?	A program would be required to transfer data from one file to the other; both would presumably be running on the same main frame.

FEATURES COMPARISON

Feature: Circulation SYSTEM: DOBIS/LIBIS

3.6 How are fine payments handled by the system?	
4.0 Printed Output	
4.1 Does the system generate a date due slip?	No.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	Yes.
4.3 Recall notices	Yes.
4.4 Fine notices	Yes.
4.5 Hold availability?	Yes.
4.6 Management reports?	No, however some could be defined and generated by the report writer.
4.6.1 Circulation statistics	
4.6.2 Weeding lists	
4.6.3 More copies needed	
4.6.4 Other - describe	

FEATURES COMPARISON

Feature: File structure	SYSTEM:
1.0 Indexes	
1.1 What indexes are built by the system?	Access point files include Names, titles, subjects, call #, publishers, ISBN/ISSN, LC card #'s.
1.2 Which indexes are utilized by each subsystem?	Each subsystem uses all of the above.
1.3 How frequently are the indexes regenerated?	On the fly continuously.
2.0 File Organization. Describe computer resource and user file structure. Diagram of file layout, attachments numbered.	Inverted file structure. Refer to IBM manual on program documentation for full detail.
3.0 File Maintenance	
3.1 How frequently are the source files updated?	The files are updated in real time.
3.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing or instantly?	In real time also.
4.0 File Security	
4.1 How would you know if you lost data?	Depends on local dp operations procedures.
4.2 When was the last time you lost data that was unrecoverable?	N/A
4.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.	User name and password match against an encoded password. Password changeable by user but encoded so programmer/user cannot discover it.
4.4 Are authorization levels available to control access to and/or update of records?	Yes at several levels.

FEATURES COMPARISON

Feature: File structure	SYSTEM: DOBIS/LIBIS
5.0 Links	
5.1 What files are linked?	All files in the DOBIS system are linked.
5.2 Describe the links with files in other computer systems.	No link with files in other systems.
5.3 Describe the capacity for linking with student data base, financial information systems, etc.	Would require programs to be written to effect links.
5.4 Describe the capability for linking with the SOLINET Regional Support System?	N/A
6.0 Record management	
6.1 Is the bibliographic file LC MARC compatible?	Yes, but approach for keeping track of MARC data field changes is not well defined.
6.2 Which MARC formats are fully supported; which not?	Monographs and serials only.
6.3 What data fields have been dropped from or added to the LC MARC format?	Some fixed field info.
6.4 What data fields have been changed in the LC MARC format?	All fields have been preserved in DMARC.
6.5 What fields are set up to be used for unique local data?	Several in acquisitions and circulation.
6.6 Describe the basic bibliographic record structure.	DMARC.
6.7 Describe automatic checks that are made to assure good quality records.	None, except that menu driven input strategy indicates poor records.
6.8 How are duplicate records identified?	Because of the input technique these become readily apparent.
6.9 What output is initiated as duplicate records are detected?	Since there are no programs set up to accept MARC tapes as input, the problems of duplicates have not been addressed.

FEATURES COMPARISON

Feature: File structure

SYSTEM: DOBIS/LIBIS

6.10 Describe the general terminal input procedure for bibliographic records.	Keying of data from worksheet to access point files and bibliographic (document) files.
6.11 Are access numbers stored in the bibliographic record?	Yes as pointers to access point files.
6.12 What standards were adopted for holdings records?	None. Cannot maintain serials holdings info.

FEATURES COMPARISON

Feature: Public Access SYSTEM: DOBIS/LIBIS

1.0 Does the system provide for public access?	Yes.
2.0 Search	
2.1 What files are available for searching? Bibliographic, acquisitions, circulation, etc.	Bibliographic files but not acquisitions or circulation. Files may be searched but not changed by an authorized user.
2.2 How can the files be searched?	By following menus.
2.3 Is there a search only capability?	Yes.
2.4 Is it possible to browse through files? Which ones?	Yes, all access point files.
2.5 Can one browse through the authority files, and then display bib records?	Yes.
2.6 Does the system handle Boolean truncated key, keyword, etc. searches?	Files can be searched by character strings on fields (per muted titles for instance)
2.6.1 What are the limits to the use of the Boolean capability - size and procedures?	
2.6.2 What are truncated keys?	From single character to as long as needed
2.6.3 What fields are searched by search keys?	Names, titles, subjects, call #, publisher, ISBN/ISSN, etc.
2.7 Is there a novice and expert method of searching?	Yes, by means of command chaining.
2.8 Is the search logic designed for the public or for library employees?	Library employees, but anyone who can read and follow instructions can use the system.
2.9 Is anyone presently using the system for direct patron inquiry?	Leuven.

FEATURES COMPARISON

Feature: Public Access	SYSTEM: DOBIS/LIBIS
2.10 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	Yes.
2.11 Can the results of one search be the argument of another finer search?	No.
3.0 System messages and display	
3.1 Does the system prompt the user?	With menus and successive command options.
3.2 Is there menu selection for functions?	Yes.
3.3 Are the system explanations expandable, i.e., novice and expert?	No, but command chaining is possible.
3.4 If the system retrieves more than one match, what information is displayed?	Short screen displays first name, first title, and date 1 from bibliographic file.

FEATURES COMPARISON

Feature: Acquisitions SYSTEM: NOTIS Interviewed: Velma Veneziano (Northwestern)

1.0 What types of orders are handled:	All those listed.
1.1 Subscriptions 1.2 Standing orders 1.3 Approval orders 1.4 Gifts 1.5 Monographs 1.6 Added copies 1.7 Microforms 1.8 Non-print media 1.9 Exchanges	Non-print. Have all the available MARC formats up.
2.0 Files and records.	Indexes and access point files, vendor and on-order file are used in addition to the bibliographic files.
2.1 Describe briefly the files and the file interrelationships.	All are linked on-line.
2.2 What information is in the basic acquisition record.	All those listed.
2.2.1 Title 2.2.2 Author 2.2.3 Publisher 2.2.4 Vendor 2.2.5 PO number 2.2.6 OCLC number 2.2.7 Order date 2.2.8 List price 2.2.9 Type of material 2.2.10 Fund 2.2.11 Renewal date 2.2.12 Requestor	MARC elements are kept up to date all the time. Vendor file offline, linked by mneumonic vendor code. Does not include standard address# PO number is system assigned it is a bibliographic number with prefix to indicate PO. Requestor kept track of in copy holdings record and also in order record. OCLC: there is a field which could carry (035 field) the OCLC #.

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: NOTIS
2.3 How are the acquisition files accessed? List the access points by which searching can be made.	By PO#, ISSN, (ISBN if wanted) and bibl. access field. Title, main entry, uniform title, added entries.
2.4 Is there a vendor file? What information does it have?	Yes. Number, name, address. No peripheral. Order record also has option to keep track of name & address. Enables keeping vendor file down in size.
2.5 How is the vendor file kept current?	Keypunched; offline batch.
2.6 Can holdings information be displayed through the subsystem for both monographs and serials? Summary or detailed?	Yes, summary and detailed. Complete holdings are always displayed. The default bibliographic display is brief; full bibliographic display is planned.
2.7 Describe techniques used for subscription monitoring.	System has a variety of date and cycle period driven mechanisms to alert staff about problems.
3.0 Subsystem capability.	
3.1 Does the acquisition file keep track of cancellations? For how long? With reasons for cancellation?	Yes. After claims are made responses are recorded in the order record in a note field. Order information stays on-line for balance of fiscal year plus one more year.
3.2 Does the system keep track of foreign currency conversion? How often updated?	Have provision for carrying a currency code but don't try to use it because currency values fluctuate too much. Translate payments into dollars. Encumbrances coded in dollars.
3.3 Does the system handle prepayments?	Yes.
3.4 Claims	
3.4.1 Does the system claim on a given schedule? 3.4.2 What is it? 3.4.3 Can it be adjusted?	On the basis of expired action dates, the system generates list of items in need of claiming each night. It is very flexible; default interval for first item. Thereafter code is supplied which becomes default interval from then on. Interval can be overridden.

FEATURES COMPARISON

Feature: Acquisitions

SYSTEM: NOTIS

3.4.4 Can claims be reviewed before mailing?	Yes.
3.4.5 How are claims formated?	An edit list of items to be claimed is generated. List is used to call in record and to enter 1 to 8 characters to cut claim letter.
3.4.6 How are re-orders for missing serials issues handled?	Just like a monograph.
3.4.7 How is expected arrival of serials issues handled with regard to claiming?	On basis of a claiming interval the system automatically generates the list.
3.5 Fund accounting	
3.5.1 Does the system provide for fund accounting?	Yes in a limited way. System generates encumbrance and expenditure reports, but does not have full on-line access to fund data.
3.5.2 For how many levels of funds is there provision?	Can be done as often as wanted. Expenditure records jibe only with payment info in individual bibliographic records. No invoice file.
3.5.3 How many different funds can be accomodated?	
3.5.4 What information does the fund accounting record contain?	Fund # field can handle up to 7 digit fund code. There is an order pay receipt record but not a fund record per se.
3.5.5 Does the system handle encumbrances?	Yes.
3.5.6 Can totals be carried over from year to year?	Previous year's records are always on-line.
3.5.7 Can the system maintain a payment history for multiple payments on standing orders, subscriptions, etc?	Yes. Purge off records that have been closed for at least a year to an off-line file. Merged with all preceeding tapes, then generate COM list. History file available for analyses.
3.5.8 Can overencumbrances be accomodated?	Yes.
3.5.9 What kind of fund reports are available? Frequency?	Hard copy available on-demand.
3.5.10 Can separate fiscal year accounting be maintained?	Yes. All fields carry date info or link.

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: NOTIS
3.6 Receiving	
3.6.1 How are partial shipments handled?	Single order can accomodate multiple copies or multiple volumes. Order as a whole kept open til complete.
3.6.2 How are returns and requests for credits handled?	System can generate memo. Claiming is by customized correspondence - with follow-up action date. Responses go into note field.
3.6.3 How are invoices handled?	Invoices - payment statement put into acquisition record.
3.6.4 Does the system provide for serial issue check-in? By acceptance or next predicted issue?	Serial check-in by issue acceptance.
3.7 Ordering	
3.7.1 Are purchase orders generated on a regular schedule or on demand?	Either, but usually on a nightly schedule.
3.7.2 What special order features are available?	There are many default conditions which can be used to simplify procedures and to speed input.
3.7.3 Does the system provide for automatic duplicate order detection? How?	Not automatic but procedurally accomodated by order searching strategy.
3.8 Are machine readable records from or to the supplier read into the system or generated by the system?	Waiting for ANSI standards. Possible to write program to take tape from Faxon (NOTIS control # carried by Faxon) and load directly. Their format is compatible with NOTIS.
4.0 What kind of management reports are generated?	Have a report generator which has been used to do many different things.
4.1 Vendor performance	
4.2 Average price	
4.3 Fund status	
4.4 In-process status	
4.5 Outstanding orders	

FEATURES COMPARISON

Feature: Acquisitions	SYSTEM: NOTIS
5.0 Printed products	
5.1 Purchase orders	Yes.
5.2 Claims	Yes.
5.3 Cancellations	Yes.
5.4 Notification of receipt of items requested by specific patrons.	No. Could use a card generating technique but don't.
5.5 Routing slips	No.
5.6 Reports on item status by vendor.	On demand. Can do global changes.
6.0 Linkage to other subsystems	Common file access.
6.1 What is the link to the cataloging subsystem?	Search module is common to each function.
6.2 What is the link to public access subsystem?	Common search
6.3 What is the link to circulation subsystem?	Circulation file is not directly linked under system control. An improved linking approach is being designed.
7.0 Binding	
7.1 Does the system keep track of binding information for serials?	Yes. Carries binding pattern. Would like to develop another order type record for binding.
7.2 Can binding slips be produced? Frequency?	No.
7.3 Can picking lists be produced? Frequency?	When 1st issue of a new volume comes in it is possible to generate a picking list.
7.4 Are picking lists and/or slips accompanied by binding purchase orders?	No.

FEATURES COMPARISON

Feature: Cataloging	SYSTEM: NOTIS
1.0 General knowledge	
1.1 Is the cataloging subsystem designed to stand on its own or to interface with a utility?	The system can stand on its own since a full MARC data base is mounted off-line with batch transfer of data. Records from a MARC communications format can be used as input.
1.2 Describe the interface with on-line utilities such as OCLC.	None at present. Planned computer-to-computer transfer of data from RLIN files.
1.3 What access points are available for searching through the cataloging subsystem?	All except OCLC #. Search key is a term of from one to seventy character string truncatable at any point. Since Northwestern is not an OCLC user the number is not carried in the record but it would be possible to carry it in 035 field and to build an index on this field.
1.3.1 Author	
1.3.2 Title	
1.3.3 LC card #	
1.3.4 Series	
1.3.5 OCLC #	
1.3.6 Search key (describe)	
2.0 Record control	
2.1 Does the system allow for input of records independent of the acquisitions system?	Yes.
2.2 Do Marc tags and indicators display on the screen for catalog records?	LC mneumonic tags appear on display. MARC numeric tags used internally, thus easily changed to display numeric tags.
2.3 Do mneuonics in lieu of MARC-II tags appear on the screen?	Yes.
3.0 Authority control	
3.1 Is automated authority control provided in the system?	No. Interactive control is under development. Presently, authority records can be searched on-line.
3.2 How long has it been in use?	
3.3 How many authority records are there now?	30,000 name/series authority records on-line. The system is part of cataloging. Separate indexes of the authority file will be merged with indexes from bibliographic file. 152 character index records. No subject authorities yet; plan load this LC file when it is available from LC in a form which can be updated.
a. Names/Uniform Title	
b. Subjects	

FEATURES COMPARISON

Feature: Cataloging	SYSTEM: NOTIS
3.4 Are the LC MARC-II authorities an input to the System? a. Names/Uniform Title b. Subjects	Working with LC on co-operative project - Northwestern get authorities file but have had problems using it. Presently find it more efficient to key directly.
3.5 What other sources of input are possible?	On-line keying. Search of LC file available at Northwestern on dial-up basis.
3.6 What do the authority records look like; ie., does the content support LC MARC authority format?	MARC format.
3.7 Does the heading record have and display the sources of the heading; eg LC, local, etc.?	Yes.
3.8 Does the heading indicate the rules by which it was created?	Yes.
3.9 Are headings changed to prefered form automatically on input?	Yes, because they are all keyed. Will do a global change by batch later on old records.
3.10 Is an edit (screen or print) generated for new headings on input?	Yes. System reformats and validates records before storing. Worksheets called on demand.
3.11 When an authority record is changed, are all the linked records changed automatically?	No. However, program is being written to do this on a batch basis.
3.12 How are replacements of LC headings by local headings and vice versa handled?	On-line keying.
3.13 Does the system automatically suppress blind reference?	N/A
3.14 Are cross references automatically generated by the system?	Planned.
4.0 Retrospective conversion (recon)	
4.1 What are the recon input methods? a) batch b) on-line	On-line or batch.

FEATURES COMPARISON

Feature: Cataloging	SYSTEM: NOTIS
4.2 What are the recon access keys for on-line and batch? a) LC no. b) ISBN no. c) ISSN no. d) author e) title f) system ID no.	All those listed. ISBN/ISSN useful when LC card number is not available. Author/title keys, because not unique, require manual review before transfer.
4.3 What ability does the system have for searching a utility and building records for recon input?	If records are structured in the MARC format NOTIS can accept them as input.
4.4 Describe the minimum data requirements for recon input. 4.4.1 Batch 4.4.2 On-line	A skeletal MARC record, with either a brief author/title or a control number (LC call number, ISBN, ISSN, etc.)
4.5 Can the system accept MARC-II records as direct input?	Yes.
4.6 What would be involved in the use of fixed field circulation book cards as input to create an initial data base?	This would involve the development of a program to reformat records to MARC. It may be unnecessary since NOTIS might accomodate Clemson's current circulation system with little modification.
5.0 Batch products	
5.1 Are book labels produced by the system?	One label for pocket. Punched circulation card. (Two labels could be produced.)
5.2 Spine labels?	No. NU practice is to use a Selin type label.
5.3 Edit lists?	Yes.
5.4 How are records selected for edit lists?	Various batch programs used, on demand.
5.5 What information is included in edit lists?	Full screen or whatever is required.
5.6 How frequently are they produced?	On demand.
5.7 Are edit lists accompanied by error listings? When?	Yes. Most checking done on line. Under various functions.
5.8 Is is possible to produce tapes of records in the MARC-II format for use in generating COM catalogs or other products?	Yes. NOTIS currently produces complete catalog card sets, and can translate on-line records into LC MARC records.

FEATURES COMPARISON

Feature: Circulation	SYSTEM: NOTIS
1.0 Does the system have the following functions in operation now?	Fairly sophisticated but not fully integrated with Cat & Acq. It is a self service system including inquiry. 1200-1500 inquiries/day to circ. file. 350-400,000 circs./yr. 11-12,000 students. Handles both LC & Dewey call #'s. Can also circ. uncataloged items (somewhat awkwardly.) Use circulation system to record missing/lost. Handles 1.0.1, 1.0.2, 1.0.3, 1.0.4, 1.0.9, 1.0.10, 1.0.11, and 1.0.13.
1.0.1 Charge	
1.0.2 Discharge	
1.0.3 Renew	
1.0.4 Holds	
1.0.5 Reserves	
1.0.6 A/V bookings	
1.0.7 Interlibrary loan	
1.0.8 Branch	
1.0.9 Fine calculation & payment	
1.0.10 Recall	
1.0.11 Carrels/lockers	
1.0.12 In-processing monitoring	Done thru bibliographic file, but not a tracking system like LC.
1.0.13 Record-reshelving count	
1.1 What are the loan periods available?	Variable. Minimum 1 day. But flexible depending on policy.
1.2 What are the types of borrowers?	Faculty, students, special, departmental, lost/missing.
1.3 How is the book charged if either the book has no circulation id or borrower does not have his card?	Back-up by standard register machine, or by two part handwritten form, for later keypunch of transaction card.
2.0 Book information	
2.1 What is the book id used; bar code, book card, etc.?	Call number on hollerith card.
2.2 What is the book or title record format?	Fixed:
2.2.1 fixed or variable	40 characters of location/call number data maximum; 1-control code, 3-id location. 10-Dewey #, 9-cutter # & wk mark, 17-vol, ed, copy. This card is derived from the holdings record.
2.2.2 maximum characters (average characters)	
2.2.3 Marc format	

FEATURES COMPARISON

Feature: Circulation SYSTEM: NOTIS

2.2.4 Derived from MARC-II	
2.2.5 Data compression - what?	
2.3 What information is in the circulation record?	Bk card information, type of charge, renewals, dates and borrower ID number. No bibliographic data, so overdues slips shows only call number & date due.
2.4 What are the access points to the circulation file?	Call # on-line, ID number by batch.
2.4.1 author	
2.4.2 title	
2.4.3 ISBN	
2.4.4 book number	
2.4.5 call number	
2.4.6 search key (describe)	
2.4.7 subjects	
3.0 Borrower Information	
3.1 What is the borrower card identification? Bar code label on student card identification, id card, etc?	Hollerith coded badges. Social security number plus one control character, or special number plus expiration date.
3.2 What is the patron or borrower record format? a) fixed or variable b) max &/or average characters	Fixed: 10 numeric characters.
3.3 What information is in the borrower file?	Name, address, status, school. No fine records, etc.
3.4 How is the borrower file accessed? a) patron name b) patron ID number	Name or identifier.
3.5 Describe the nature of the link between the system and borrower information captured in institution level files; ie, university staff or student data bases?	Batch update by tape from university files or keypunched by library for special borrowers.

FEATURES COMPARISON

Feature: Circulation SYSTEM: NOTIS

3.6 How are fine payments handled by the system?	Multi-part fine notice produced. Carbon copies used for manual follow-up.
4.0 Printed Output	
4.1 Does the system generate a date due slip?	Yes. Automatically when item is charged.
4.2 Are overdue notices generated? How many: 1st, 2nd, 3rd?	Yes. Quantity can vary as needed.
4.3 Recall notices	Yes.
4.4 Fine notices	Yes.
4.5 Hold availability?	Yes.
4.6 Management reports?	
4.6.1 Circulation statistics	Monthly statistics - not elaborate.
4.6.2 Weeding lists	Inventory file also maintained which helps with lots of things.
4.6.3 More copies needed	
4.6.4 Other - describe	Inventory lists.

FEATURES COMPARISON

Feature: File structure

SYSTEM: NOTIS

1.0 Indexes	Excluding subjects - A/T indexes. 2½/bibl. record ISSN index. Indexes are generated as a function of flagging fields. Indexes are table driven. Don't presently delete on-line as a procedure, but planned as a refinement.
1.1 What indexes are built by the system?	
1.2 Which indexes are utilized by each subsystem?	Acq-Cat-Public. Circ is separate & has call # index.
1.3 How frequently are the indexes regenerated?	On-line instantaneously.
2.0 File Organization. Describe computer resource and user file structure. Diagram of file layout, attachments numbered.	See attached. Usually allocate disc space on basis of 1000 to 1200 characters per record.
3.0 File Maintenance	
3.1 How frequently are the source files updated?	In real time or batch generation.
3.2 When an on-line update is made to a user file or index, when is the update actually made? During batch processing at night, weekly batch processing or instantly?	In real time.
4.0 File Security	
4.1 How would you know if you lost data?	Redundant backup tapes & dumps. Most you can lose is the record on screen.
4.2 When was the last time you lost data that was unrecoverable?	Perhaps once a number of years ago due to a procedural mistake.
4.3 What are the safeguards against unauthorized modification of data? Both for resource files and user files.	Integrity is as good as any. Name/password control at terminal, file or record level.
4.4 Are authorization levels available to control access to and/or update of records?	Yes. CICS password control is used. Usually use group password control. Branches have a check-in authorization level only. Can create records in Acquisitions but not authorized bibliographic/holdings. Cataloging cannot create/modify order records, etc.

FEATURES COMPARISON

Feature: File structure — SYSTEM: NOTIS

5.0 Links	
5.1 What files are linked?	All the files are linked by common file access modules except circulation file and off-line MARC file.
5.2 Describe the links with files in other computer systems.	There are no direct links.
5.3 Describe the capacity for linking with student data base, financial information systems, etc.	Off-line reformating and loading of data only.
5.4 Describe the capability for linking with the SOLINET Regional Support System?	This capability would depend upon the development of software to accomodate the interface of IBM 4331 and Burroughs B6800.
6.0 Record management	
6.1 Is the bibliographic file LC MARC compatible?	Completely.
6.2 Which MARC formats are fully supported; which not?	All those accepted nationally. Also an analytic format for article level controls.
6.3 What data fields have been dropped from or added to the LC MARC format?	None. Procedure involve the use of 9xx fields to create bibliographic portion of order records when no LC MARC is available.
6.4 What data fields have been changed in the LC MARC format?	None. Have been very cautious.
6.5 What fields are set up to be used for unique local data?	Use 900;s for provisional records & can retain; eg., an acquisitions title could be retained permanently as an added field.
6.6 Describe the basic bibliographic record structure.	MARC-II, with directory info relocated.
6.7 Describe automatic checks that are made to assure good quality records.	Use a work-sheet process so everything reviewed. Invalid combinations of data are caught by system.
6.8 How are duplicate records identified?	By use of indexes in combination with manual review.
6.9 What output is initiated as duplicate records are detected?	Batch programs will list entries which appear to be duplicates.

FEATURES COMPARISON

Feature: File structure SYSTEM: NOTIS

6.10	Describe the general terminal input procedure for bibliographic records.	Keying of data to workform screen from worksheet.
6.11	Are access numbers stored in the bibliographic record?	Yes.
6.12	What standards were adopted for holdings records?	Developed own detailed holdings record. Easy to maintain and interpret. ANSI standard summary holdings.

FEATURES COMPARISON

Feature: Public Access	SYSTEM: NOTIS
1.0 Does the system provide for public access?	Yes.
2.0 Search	
2.1 What files are available for searching? Bibliographic, acquisitions, circulation, etc.	Bibliographic and circulation. Acquisitions and in-process data also available, including current issues of serials.
2.2 How can the files be searched?	Bibliographic by author, title and ISSN. Circulation by call number.
2.3 Is there a search only capability?	Yes.
2.4 Is it possible to browse through files? Which ones?	Yes, by retrieving multiple matches on truncated key.
2.5 Can one browse through the authority files, and then display bib records?	Authority files are browsable but not yet directly linked with bibliographic record. (Planned.)
2.6 Does the system handle Boolean truncated key, keyword, etc. searches?	No.
2.6.1 What are the limits to the use of the Boolean capability - size and procedures?	
2.6.2 What are truncated keys?	Indexes are "full heading" (Name or title). They can be truncated at any point.
2.6.3 What fields are searched by search keys?	
2.7 Is there a novice and expert method of searching?	Not necessary.
2.8 Is the search logic designed for the public or for library employees?	Originally designed for employees. A new module provides user oriented approach.
2.9 Is anyone presently using the system for direct patron inquiry?	Yes in main library and two branches.

FEATURES COMPARISON

Feature: Public Access SYSTEM: NOTIS

2.10 After one has viewed one match from among many, can one view others without repeating the search keys and the search? How?	Yes by entering line number a list of brief entries is displayed. If the list includes more than seventeen entries, "pages" can be called in, one after the other. User can retrace steps as needed.
2.11 Can the results of one search be the argument of another finer search?	Index redesign will probably include redirection of search.
3.0 System messages and display	
3.1 Does the system prompt the user?	Introductory screen which explains what to do. Can go back to it as needed. Prompting link on each screen and can also get a help screen.
3.2 Is there menu selection for functions?	Refined as too cumbersome after trying.
3.3 Are the system explanations expandable, i.e., novice and expert?	No need since so straight-forward.
3.4 If the system retrieves more than one match, what information is displayed?	Displays different things. If over 17 matches gives a guide screen with logical break points. Otherwise displays index entries which are really brief bibl. entries. Can page thru index entries.

HARDWARE/SOFTWARE COMPARISON — APPENDIX F

Hardware	SYSTEM: Data Phase
1.0 Configuration 1.1 Describe the hardware configuration and file capacity as the system is currently designed. 1.2 What would be the likely relationship of the hardware to the Clemson mainframe (IBM 3033); ie., shared, networked, stand alone?	Can set up on Data General as shown here or on DEC or Tandem. Elipse S130 w/2 - 96 MB disc drives, 1 tape drive, console printer & hispeed printer. (100,000 titles total). Rule of thumb, 100,000 titles/192 MB drive. Stand alone under ALIS-I. Possible network under Tandem but not likely under MIIS.
2.0 Who would maintain the hardware?	Hardware vendor.
3.0 What physical requirements would be necessary to house the hardware? 3.1 Space. 3.2 Air handling. 3.3 Electrical. 3.4 Communications.	For: 1 Elipse s/140 w/2 discs, 1 tape drive, 1 console printer, 1 matrix printer. Adequate space to allow good air flow around units. Maximum cabling distance of 25 feet. 60° to 70° F optinum. 21,000 BTU/hr 40% to 60% humidity 180 amps on 208v and 120v over 10-12 receptacles. One telephone.
4.0 What hardware back-up would be required to support specific systems? 4.1 Acquisitions. 4.2 Circulation. 4.3 Serials. 4.4 Cataloging. 4.5 Public access.	Circulation should have one cassette tape unit to provide emergency service when computer is down. Could be completely manual.
5.0 Are different terminals required for specific usage, eg. check-out, staff use, etc.?	Yes. Check in and out requires OCR-A wand attachment.
6.0 What would be the minimum start-up cost for hardware? 6.1 Computer.	Elipse S/130 processor, modum, line printer, console, 2 tape drives, two 300 M disc, ten full check-out terminals, and six CRT's $169,620.00 Clemson would require an Elipse S/250 as minimum. Refer to Appendix I.

HARDWARE/SOFTWARE COMPARISON

Hardware	SYSTEM: Data Phase
6.2 Communications controllers. 6.3 Terminals. 6.4 Other.	
7.0 What would be involved in searching via terminals installed to access the Clemson University 3033?	Not possible with DEC or Data General hardware using MIIS.

HARDWARE/SOFTWARE COMPARISON

Software	SYSTEM: Data Phase
1.0 In what programming language is the application software written?	MIIS (Meditech Interpretive Information System).
2.0 What additional software is required to make the system work; ie DBMS, TP monitor, etc.?	MIIS is all that is required.
3.0 How many programs are in the current system application software?	1200 (max 2K each)
4.0 Approximately how many lines of code are in the current system?	Not more than 2 screens (about 50 lines) per program.
5.0 Is the code fully structured?	Under ALIS-II, yes. Not ALIS-I.
6.0 Who maintains the software?	Data Phase; including all enhancements and additions of functions. User may write applications also.
7.0 How many people are involved in maintaining the application software?	Data Phase would rather have none in library.
8.0 How many people are involved in new application software development?	Varies.
9.0 How many systems, programming, and operator staff are involved in running and maintaining the entire system?	Depends on status. Need a full time project coordinator at start. Key operator and 3 backup usually appropriate. .25 - .50 FTE under full operation.
10.0 Are these same people involved in new development on the system? How many others are?	N/A
11.0 Describe the minimum credentials of staff needed to run system.	At user site only a technically oriented LTA required.
12.0 Describe the specialized computer knowledge required by library staff to run the system.	None.

HARDWARE/SOFTWARE COMPARISON

Software

SYSTEM: Data Phase

13.0 What are the future development plans?	To develop ALIS-II on fully integrated system with full public access, authority control and serials check-in.
14.0 What would be the minimum start-up cost for software?	$55,000.
15.0 Describe the likely system development and coding required for Clemson staff before start-up?	None.

HARDWARE/SOFTWARE COMPARISON

Replication and documentation	SYSTEM: Data Phase
1.0 What information is given to the institution who chooses to replicate the software?	All source code, detailed documentation and instruction in MIIS. All structured with English structure beginning. Also has an on-line teaching system with MIIS.
1.1 System documentation?	Yes.
1.2 Program documentation (including macros, tables, subroutines, utilities)?	Yes.
1.3 Is the replicating institution given source or object code?	Yes.
1.4 Run instructions?	Yes.
1.5 Run jcl?	Yes.
1.6 Control forms?	Yes.
1.7 Is the documentation indexed?	Yes.
1.8 Are there samples of the procedures within the text?	Yes.
1.9 What portions of the system are not included in user documentation?	Diagnostics.
1.10 Is the documentation clear and easy to use; ie, understandable?	Yes.
2.0 What is the training program for replication?	Full documentation. On-site training for operators and terminal operators. On-line interactive programming course.
2.1 Operations staff?	
2.2 Programming staff?	
2.3 Control staff?	
2.4 What recourse does the replicating site have to resolve problems during the first year of operations?	
3.0 What is the procedure for bringing up the software in the replicated facility?	Power up equipment. Toggle in bootstrap flip program load switch.

HARDWARE/SOFTWARE COMPARISON

Replication and documentation	SYSTEM: Data Phase
3.1 What are the acceptance test criteria?	Varies, per contract. Samples avail.
3.2 What happens to any guarantees or warranties, if the software is modified?	Software agreement includes agreement to not modify software by user.
4.0 Could the system be installed on a shared facility and later readily migrated to a stand-alone configuration?	Not readily installed on shared environment. System won't run on IBM. MIIS requires whole machine.
5.0 Describe the library start-up effort required to construct the necessary files, ie., convert circulation to barcode, create serials data base, etc.?	Read book card file and create bar code labels. Apply bar codes to all books. Convert data base from shelf list after installation. Write into contract an agreement to develop serials check-in.
6.0 System support	
6.1 How much support is provided by Data Phase to keep the system running?	Complete support. Dial-in diagnostics.
6.2 How much support is provided by Data Phase for new developments?	Maintenance agreement includes all enhancements and new functions.
6.3 How is this support to be paid for?	By maint. agreement monthly fee.
7.0 Describe the arrangements between original installation or vendor and replicating institution in regard to enhancements of the system?	
7.1 Are enhancements made available?	Yes. Automatically and typically transmitted via wire.
7.2 Does the replicating institution receive software and documentation updates?	Yes. Including functional enhancements at no additional charge.
7.3 At what cost?	None, other than maintenance agreement fee.

HARDWARE/SOFTWARE COMPARISON

Responsiveness	SYSTEM: Data Phase
1.0 Specific installation (describe briefly the environment) what is the average response time for the last six months?	Atlanta Public: Oral Roberts: Circ. 3 sec or less. Inquiry 5 sec or less. Filing new catalog record up to a minute because of some file maintenance approaches. These are being redone in ALIS-II. (Not a bad problem at Oral Roberts. M. Moore.)
2.0 For the following transaction situations, what is the typical number of iterations (# of accesses of screens) required to retrieve the desired information?	
2.1 For author and/or title information, to retrieve bibliographic record?	4th screen in worst case.
2.2 For call number, to retrieve bibliographic record?	2 to 4 depending on amount of call # information input.
2.3 For call number, to retrieve circulation status information?	Usually two.
2.4 For charge-out transaction?	Typically 1 screen.
2.5 For serial issue to check-in?	N/A.
2.6 For subject information, to retrieve all relevant bibliographic records?	2 to 4 screen.
2.7 For monograph acquisitions receiving transaction?	N/A, will be one screen.

HARDWARE/SOFTWARE COMPARISON

Operating cost	SYSTEM: Data Phase
1.0 For a specific installation what is the total annual operating cost? Describe the environment and name installation.	Maintenance agreement for Clemson: Software $400/month Hardware $1432/month
2.0 Describe the CPU utilization for the current installation noted in above question.	For Oral Roberts. Elipse S/130, 3-192 MB disc. 40% with 80-90% disc utilized.
3.0 How many terminals are currently linked to this installation?	14 term., 1 printer, 1 OCLC interface.
4.0 What are the average number of transactions per year of each type on this installation?	ck w/Oral Roberts - (Max Moore) 918/492-6161
4.1 Acquisition search	
4.2 Acquisition order	
4.3 Circulation search	
4.4 Circulation check-out	
4.5 Cataloging search	
4.6 Cataloging input	
4.7 Public access search	
4.8 Serials check-in	

HARDWARE/SOFTWARE COMPARISON

Hardware	SYSTEM: DOBIS/LIBIS
1.0 Configuration	
1.1 Describe the hardware configuration and file capacity as the system is currently designed.	Will operate on IBM 4331 or minimum 370/138 with at least one 3270 CRT, one nine track tape drive and printer. Disc space for CICS application programs, and library files. Partition under CICS/OS/VS requires 4 K bytes of storage.
1.2 What would be the likely relationship of the hardware to the Clemson mainframe (IBM 3033); ie., shared, networked, stand alone?	Shared. Or networked if mounted on 4331.
2.0 Who would maintain the hardware?	Clemson and IBM.
3.0 What physical requirements would be necessary to house the hardware?	If mounted on 4331 separate from 3033 would not require machine room environment. 208V. About 300 sq. ft.
3.1 Space.	
3.2 Air handling.	
3.3 Electrical.	
3.4 Communications.	
4.0 What hardware back-up would be required to support specific systems?	Circulation would require disc or tape data collection hardware to accumulate transactions during computer down-time.
4.1 Acquisitions.	
4.2 Circulation.	
4.3 Serials.	
4.4 Cataloging.	
4.5 Public access.	
5.0 Are different terminals required for specific usage, eg. check-out, staff use, etc.?	Not absolutely, but circulation utilizing bar code labels which would be more effective, would require label scanning adapters.
6.0 What would be the minimum start-up cost for hardware?	
6.1 Computer.	IBM 4331 processor under VSI with 2M main memory, two-64.5 M byte and one 571 M byte disc drives, one tape drive, one console display and one 300 line/min printer: $347,481.00. Sixteen IBM 3278 termianls. $50,000.00

HARDWARE/SOFTWARE COMPARISON

Hardware	SYSTEM: DOBIS/LIBIS
6.2 Communications controllers. 6.3 Terminals. 6.4 Other.	
7.0 What would be involved in searching via terminals installed to access the Clemson University 3033?	Would require use of teleprocessing software on 3033 such as CICS or TSO. On 4331 a network facility with 3033 would be required.

HARDWARE/SOFTWARE COMPARISON

Software		SYSTEM: DOBIS/LIBIS
1.0	In what programming language is the application software written?	Mostly PL/1, some assembler.
2.0	What additional software us required to make the system work; ie DBMS, TP monitor, etc.?	CICS/OS/VS release 1.1.3 (Program # 5740-XX1.) OS/VS1 or OS/VS2. OS/VS sort merge (Program 5740-SM1).
3.0	How many programs are in the current system application software?	See System Guide for list.
4.0	Approximately how many lines of code are in the current system?	
5.0	Is the code fully structured?	
6.0	Who maintains the software?	User, with assistance of sponsoring branch and local account team.
7.0	How many people are involved in maintaining the application software?	N/A
8.0	How many people are involved in new application software development?	N/A
9.0	How many systems, programming, and operator staff are involved in running and maintaining the entire system?	Determined by user site. Estimate at Clemson, at least one systems programmer familiar with CICS, applications programmers familiar with PL-1, operators, and 1 systems librarian assuming a stand alone operation.
10.0	Are these same people involved in new development on the system? How many others are?	Licensees may contract IBM to make enhancements or they may make them on their own.
11.0	Describe the minimum credentials of staff needed to run system.	At site only technically oriented LTA. For software maintenance need programmer analyst.
12.0	Describe the specialized computer knowledge required by library staff to run the system.	None.

HARDWARE/SOFTWARE COMPARISON

Software	SYSTEM: DOBIS/LIBIS
13.0 What are the future development plans?	IBM has no specific enhancement plans for the system.
14.0 What would be the minimum start-up cost for software?	$49,500 for application software. $1,000/mo. for CICS.
15.0 Describe the likely system development and coding required for Clemson staff before start-up?	Requires recoding of circulation system to provide for Reserve Room loan transactions. Module would need to be coded to develop serials check-in system. Some hardware development and/or coding would be required to effect a link with the OCLC system. An OCLC-IBM link has been established by Tarrant-County Junior College District

HARDWARE/SOFTWARE COMPARISON

Replication and documentation	SYSTEM: DOBIS/LIBIS
1.0 What information is given to the institution who chooses to replicate the software?	IBM documentation and IUP software package.
1.1 System documentation?	1.1 to 1.5 Yes
1.2 Program documentation (including macros, tables, subroutines, utilities)?	
1.3 Is the replicating institution given source or object code?	
1.4 Run instructions?	
1.5 Run jcl?	
1.6 Control forms?	No, but seems to be no reason for any.
1.7 Is the documentation indexed?	Extensive table of contents.
1.8 Are there samples of the procedures within the text?	
1.9 What portions of the system are not included in user documentation?	None
1.10 Is the documentation clear and easy to use; ie, understandable?	
2.0 What is the training program for replication?	For Europe, internal workshops and installation guidance available at the user's expense from Caryl and Stratton McAllister. For U.S., varying assistance available depending on local IBM teams.
2.1 Operations staff?	
2.2 Programming staff?	
2.3 Control staff?	
2.4 What recourse does the replicating site have to resolve problems during the first year of operations?	
3.0 What is the procedure for bringing up the software in the replicated facility?	Detailed installation guides are provided for user to implement self installation.

HARDWARE/SOFTWARE COMPARISON

Replication and documentation	SYSTEM: DOBIS/LIBIS
3.1 What are the acceptance test criteria?	There are none.
3.2 What happens to any guarantees or warranties, if the software is modified?	The licensee has 30 days free of charge in which to accept the system.
4.0 Could the system be installed on a shared facility and later readily migrated to a stand-alone configuration?	Yes.
5.0 Describe the library start-up effort required to construct the necessary files, ie., convert circulation to barcode, create serials data base, etc.?	
6.0 System support	
6.1 How much support is provided by IBM to keep the system running?	Responsibility for maintenance rests with Caryl and Stratton McAllister. They accept bug reports and suggestions for improvements. A number of changes to the system have already been made at the suggestion of users.
6.2 How much support is provided by IBM for new developments?	New developments could be handled by contracting IBM. Financial arrangements would be up to the user to make as suitable to both parties.
6.3 How is this support to be paid for?	
7.0 Describe the arrangements between original installation or vendor and replicating institution in regard to enhancements of the system?	
7.1 Are enhancements made available?	Yes.
7.2 Does the replicating institution receive software and documentation updates?	Yes.
7.3 At what cost?	

HARDWARE/SOFTWARE COMPARISON

Responsiveness	SYSTEM: DOBIS/LIBIS
1.0 Specific installation (describe briefly the environment) what is the average response time for the last six months?	Centenial College; instantaneous on dedicated 370/148.
2.0 For the following transaction situations, what is the typical number of iterations (# of accesses of screens) required to retrieve the desired information?	Each of these can be reduced by the experienced user employing command chaining.
2.1 For author and/or title information, to retrieve bibliographic record?	Four.
2.2 For call number, to retrieve bibliographic record?	Four.
2.3 For call number, to retrieve circulation status information?	Six.
2.4 For charge-out transaction?	One, for up to nine loans to one individual.
2.5 For serial issue to check-in?	N/A
2.6 For subject information, to retrieve all relevant bibliographic records?	Four for the first record plus two for each additional record.
2.7 For monograph acquisitions receiving transaction?	N/A

HARDWARE/SOFTWARE COMPARISON

Operating cost	SYSTEM: DOBIS/LIBIS
1.0 For a specific installation what is the total annual operating cost? Describe the environment and name installation.	There is no installation running DOBIS/LIBIS with Acquisitions, Circulation and Cataloging together.
2.0 Describe the CPU utilization for the current installation noted in above question.	Nat'l. Library of Canada: shared environment College Bibl. Center (centennial) has 30 terminals on dedicated 370/148. They think 50 terminals will saturate the machine. WLN also estimates 50 tubes on 148 will saturate.
3.0 How many terminals are currently linked to this installation?	
4.0 What are the average number of transactions per year of each type on this installation?	
4.1 Acquisition search	
4.2 Acquisition order	
4.3 Circulation search	
4.4 Circulation check-out	
4.5 Cataloging search	
4.6 Cataloging input	
4.7 Public access search	
4.8 Serials check-in	

HARDWARE/SOFTWARE COMPARISON

Hardware	SYSTEM: NOTIS
1.0 Configuration	
1.1 Describe the hardware configuration and file capacity as the system is currently designed.	IBM 4331 with 1 M of main memory, sixty terminals. (See attached)
1.2 What would be the likely relationship of the hardware to the Clemson mainframe (IBM 3033); ie., shared, networked, stand alone?	Could run on 3033 or be networked in depending on local programming if mounted on stand alone 4331.
2.0 Who would maintain the hardware?	IBM and local user.
3.0 What physical requirements would be necessary to house the hardware?	For IBM 4331. No machine room environment required.
3.1 Space.	
3.2 Air handling.	
3.3 Electrical.	
3.4 Communications.	
4.0 What hardware back-up would be required to support specific systems?	Circulation might require hardware to capture charge transactions when main computer is down.
4.1 Acquisitions.	
4.2 Circulation.	
4.3 Serials.	
4.4 Cataloging.	
4.5 Public access.	
5.0 Are different terminals required for specific usage, eg. check-out, staff use, etc.?	CRT's for inquiry. IBM 1030's for charge transactions.
6.0 What would be the minimum start-up cost for hardware?	IBM 4331 processor under DOS/VSE with 1 M of main memory, 300 line/minute printer, console, DAS device, one 571 M disc, and one tape unit: $183,816.00
6.1 Computer.	IBM 3278 terminals, 16: $50,000.00

HARDWARE/SOFTWARE COMPARISON

Hardware	SYSTEM: NOTIS
6.2 Communications controllers. 6.3 Terminals. 6.4 Other.	
7.0 What would be involved in searching via terminals installed to access the Clemson University 3033?	Appropriate software for communcation link between TSO and CICS on 3033 or to network 3033 with IBM 4331.

HARDWARE/SOFTWARE COMPARISON

Software	SYSTEM: NOTIS
1.0 In what programming language is the application software written?	Assembly language.
2.0 What additional software us required to make the system work; ie DBMS, TP monitor, etc.?	CICS.
3.0 How many programs are in the current system application software?	Depends on what you count. There are many tables which don't execute. 150 separate source modules.
4.0 Approximately how many lines of code are in the current system?	500/module.
5.0 Is the code fully structured?	Well commented. No tricks. All standard conventions.
6.0 Who maintains the software?	Northwestern library staff.
7.0 How many people are involved in maintaining the application software?	Three and a half for development and maintenance. An analyst, A senior programmer, and "½" time of Jim Aagaard.
8.0 How many people are involved in new application software development?	Same three.
9.0 How many systems, programming, and operator staff are involved in running and maintaining the entire system?	Have a data center with one full time person but operators have other functions. Security guard turns the system off at night.
10.0 Are these same people involved in new development on the system? How many others are?	Yes. No others.
11.0 Describe the minimum credentials of staff needed to run system.	No significant DP credentials to run.
12.0 Describe the specialized computer knowledge required by library staff to run the system.	None.

HARDWARE/SOFTWARE COMPARISON

Software

SYSTEM: NOTIS

13.0 What are the future development plans?	Refine fund control, finish public access, provide on-line authority control.
14.0 What would be the minimum start-up cost for software?	$50,000 for NOTIS. 1,000/mo. for CICS.
15.0 Describe the likely system development and coding required for Clemson staff before start-up?	The system could be started at Clemson with virtually no coding except for use of the Circulation modules. At minimum it would be necessary to revise the code to accomodate Clemson book cards which are different from Northwestern's. It would be desirable to refine the system to link the circulation records to the bibliographic file and to make the call number index retrieve on this file. It would also be desirable to accomodate OCLC numbers in the bibliographic records.

HARDWARE/SOFTWARE COMPARISON

Replication and documentation — SYSTEM: NOTIS

1.0 What information is given to the institution who chooses to replicate the software?	
1.1 System documentation?	Yes.
1.2 Program documentation (including macros, tables, subroutines, utilities)?	Very detailed at program level. Now writing a manual on installation.
1.3 Is the replicating institution given source or object code?	Source.
1.4 Run instructions?	For DOS.
1.5 Run jcl?	For DOS.
1.6 Control forms?	
1.7 Is the documentation indexed?	No. But going into computer so documentation would be available on-line.
1.8 Are there samples of the procedures within the text?	To some extent.
1.9 What portions of the system are not included in user documentation?	
1.10 Is the documentation clear and easy to use; ie, understandable?	OK
2.0 What is the training program for replication?	There is no formal training program, but a nominal amount of consulting help is available to assist installation. Northwestern may send a programmer analyst to Florida to assist with their installation.
2.1 Operations staff?	
2.2 Programming staff?	
2.3 Control staff?	
2.4 What recourse does the replicating site have to resolve problems during the first year of operations?	
3.0 What is the procedure for bringing up the software in the replicated facility?	Depends on facility.

HARDWARE/SOFTWARE COMPARISON

Replication and documentation	SYSTEM: NOTIS
3.1 What are the acceptance test criteria?	30 day acceptance test.
3.2 What happens to any guarantees or warranties, if the software is modified?	
4.0 Could the system be installed on a shared facility and later readily migrated to a stand-alone configuration?	This has already been done at Northwestern.
5.0 Describe the library start-up effort required to construct the necessary files ie., convert circulation to barcode, create serials data base, etc.?	Small conversion would be required for circulation. Development of data base for serials and bibliographic file would be needed and could be initiated with very small file.
6.0 System support	
6.1 How much support is provided by Northwestern to keep the system running?	Informal, professional arrangement & later negotiation if needed.
6.2 How much support is provided by Northwestern for new developments?	
6.3 How is this support to be paid for?	First year included in purchase.
7.0 Describe the arrangements between original installation or vendor and replicating institution in regard to enhancements of the system?	Same as above.
7.1 Are enhancements made available?	Yes.
7.2 Does the replicating institution receive software and documentation updates?	Yes.
7.3 At what cost?	First year included in purchase.

HARDWARE/SOFTWARE COMPARISON

Responsiveness

SYSTEM: NOTIS

1.0 Specific installation (describe briefly the environment) what is the average response time for the last six months?	Full NOTIS system on 4331 with sixty terminals. TP delays & CPU response. Often instant. At worst 2 sec. 2400 band line term's may go to 5 sec during peak loads.
2.0 For the following transaction situations, what is the typical number of iterations (# of accesses of screens) required to retrieve the desired information?	
2.1 For author and/or title information, to retrieve bibliographic record?	Worst case: Guide screen to index screen to bibl record; eg. three screens.
2.2 For call number, to retrieve bibliographic record?	Just to circ file - one screen.
2.3 For call number, to retrieve circulation status information?	One.
2.4 For charge-out transaction?	One.
2.5 For serial issue to check-in?	One.
2.6 For subject information, to retrieve all relevant bibliographic records?	Two to three.
2.7 For monograph acquisitions receiving transaction?	One.

HARDWARE/SOFTWARE COMPARISON

Operating cost	SYSTEM: NOTIS
1.0 For a specific installation what is the total annual operating cost? Describe the environment and name installation.	4331 group I dedicated and in library. Under shared was about same. 370/138 Most of cost is tape drives. But wouldn't need much outside of library.
2.0 Describe the CPU utilization for the current installation noted in above question.	40-50% during peak hours over an hour. System has NOTIS, text edit, and operating software including CICS.
3.0 How many terminals are currently linked to this installation?	60.
4.0 What are the average number of transactions per year of each type on this installation?	
4.1 Acquisition search	
4.2 Acquisition order	
4.3 Circulation search	
4.4 Circulation check-out	12-1500/day for circulation. Overall: 18-20,000/day including all functions.
4.5 Cataloging search	
4.6 Cataloging input	
4.7 Public access search	
4.8 Serials check-in	

NORTHWESTERN UNIVERSITY LIBRARY
INFORMATION SYSTEMS DEVELOPMENT
November 15, 1980

Configuration of IBM 4331

Processor: IBM 4331 (model group 1, 1 megabyte)
Features: 1001 (adapter power prereq),
1421 (block multiplexer channel),
1901 (control store expansion),
2001 (display/printer adapter expansion),
3201 (dasd adapter),
5248 (byte multiplexer channel),
5531 (power interface),
7901 (direct access storage compatability)
1601 (communications adapter, base),
3701 (*5) (EIA/CCITT interface),
4695 (*5) (line attachment base for clocked modems)

Console: IBM 3278-2A with 4634 keyboard

Terminal controller: IBM 2701 with 1 Terminal Adapter Type II (#4648) and Line Adapter (#4637)

Disks: IBM 3370-A1 (*1) and 3370-B1 (*2) (1714 MB) (until June 1981)
IBM 3370-A1 (*1) and 3370-B1 (*3) (2285 MB) (after June 1981)

Card reader: IBM 2501-B1

Line printer: IBM 3203-5 with 1416-ALA print train

Tape controller: IBM 3803-1

Tape drives: IBM 3420-3 (*2) with feature 6631 (1600 bpi)

Terminals: About 48 IBM 3270 CRT's and printers, 12 Genesis One (Wordstream) 3277-compatable CRT's, 5 IBM 1030's, and 1 Telex 286 letter-quality printer

Equipment Configurations

The following are cost estimates for configurations appropriate to each system, given a database of 400,000 titles and a patron file of 12,000.

DataPhase

Computer: Data General, Elipse S/250 (512 KB) with character instruction set, I/O board, real time clock, asynchronous controller, EIA interface, communications chassis, ALM-16 asynchronous MUX (32 lines), EIA module, 2 bay cabinet, and cabling.	$ 74,400
Console printer (30 cps)	2,400
180 CPS line printer	4,550
CDC disk drive and controller (300 MB)	33,000
Disk drive (300 MB)	19,000
Disk drive (300 MB)	19,000
Magnetic tape drive, 9 track, (800 bpi)	9,900
Tape drive (800 bpi)	9,900
Modem (300 baud, dial up)	350
Terminals: Full check out station with bar code reader, 10; CRT, 6	43,000 13,740
TOTAL	$229,240

DOBIS/LIBIS

Computer: IBM 4331, K02 processor (2 MB memory) under VS1 with 1001 adaptor, 1431 high speed mpx channel, 1601 communications adapter, 3201 DASD interface, 4695 base, 4830 loop adapter, 5248 byte MPX channel, 5531 power interface, etc.	$200,994
Display console, 3278 with 4634 keyboard.	3,760
600 LPM printer, 3262 with 96 EBCDIC character set	16,401
3375 DASD (570 MB)	46,450
3775 DASD (570 MB)	31,000
3880 storage control	72,160

3411 magnetic tape unit, single density (1600 bpi)	20,845
Terminals, 3274 controller with 16 3278 CRT's	66,785
Subtotal	$458,395
Discount 10 %	45,839
TOTAL	$412,556

NOTIS

Computer: IBM 4331, J01 processor (1 MBmemory) under DOS/VSE with 1001 adapter, 1601 communications adapter base, 1901 control storage expansion, 3201 DASD adapter, 3701 EIA/CCITT interface, 4695 line base, 4830 local loop adapter, 4901 MTA, 5248 byte MPX channel, 5531 power interface, etc.	$108,889
Display console, 3278 A)2 with 4634 keyboard	3.760
600 LPM printer, 3262 with 96 EBCDIC character set	16,401
3370 DASD (570 MB)	40,620
3370 DASD (540 MB)	27,070
8809 magnetic tape unit	11,500
3274 controller with thirteen 3278 CRT's	58,010
3641 terminal; badge/card reader	16,716
Subtotal	$282,966
Discount, 10 %	28,296
TOTAL	$254,669

CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA 29631

ADMINISTRATIVE PROGRAMMING SERVICES

May 8, 1981

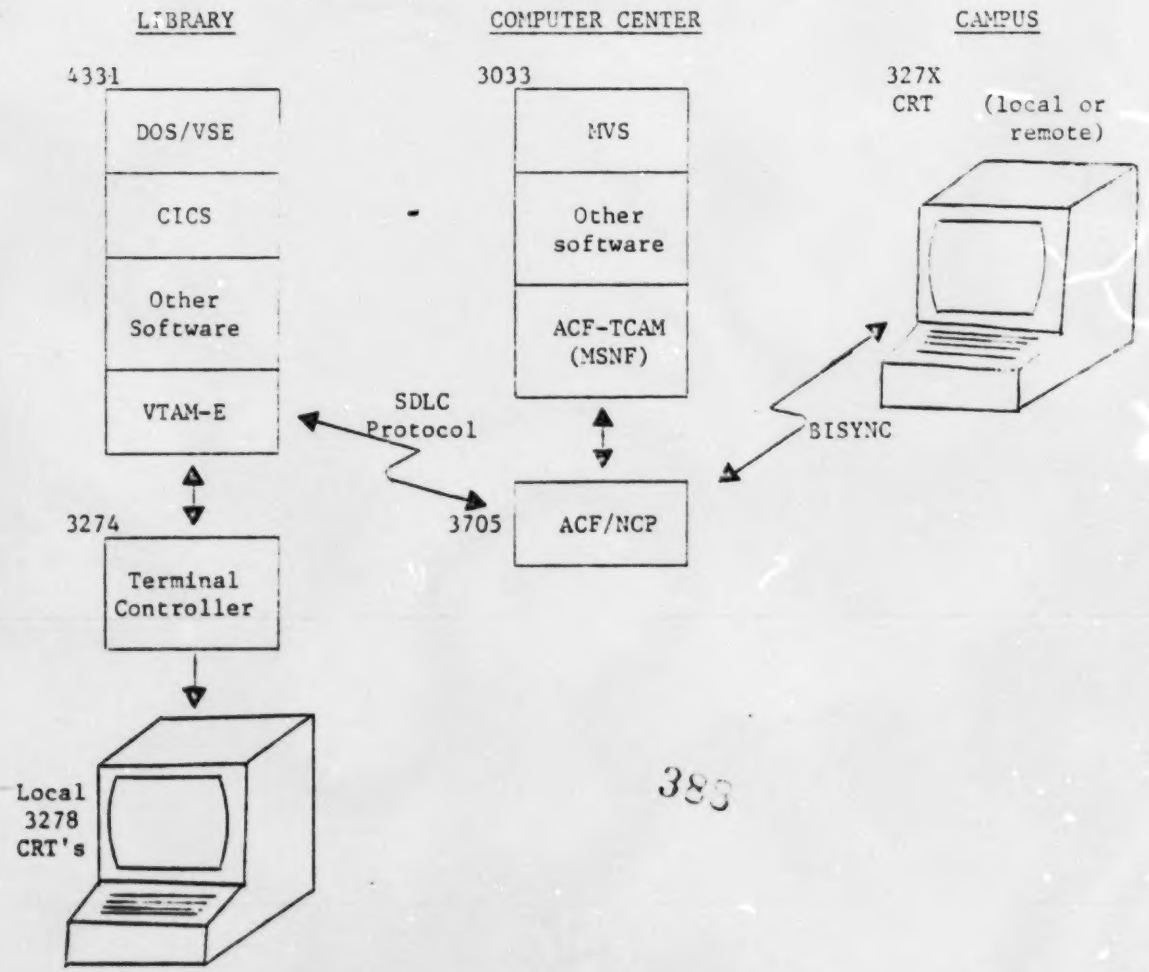
TO: Chris Duckenfield
Don Fraser
Richard Meyer

FROM: George Alexander

SUBJECT: IBM Software for Library System

Bob Kelley has outlined the software needed to allow an IBM 4331 in the Library to communicate on-line to the IBM 3033. It is assumed that communications will allow all 3270-type terminals on campus to pass through the 3033 to the application in the 4331 and back.

The configuration looks like this:



The software costs are as follows:

3033 Software (not currently installed at Clemson)

ACF/TCAM V.2	$544/mo.	5735-RC3
MSNF Feature	$880/mo.	
ACF/NCP/VS	$145/mo.	5735-XX1

4331 Software

Please see attached IBM software list. Depending on the application software selected, Assembler may be installed rather than PL/1. (Assembler/DOS is free while PL/1 is $281/mo.) Also note that the application software, such as DOBIS/LIBIS or NOTIS, is not included in this list.

George Alexander

GA:sl
Attachment

PROGRAM	FEAT	DESCRIPTION	MONTHLY CHARGE	MLPSC
5750-HAB		DOS/VSE SYSTEM IPO/E-DC		
	9002	ASSET REGISTRATION		
	5802	ACF/VTAME+ACF/VTAME SCP 9/1600		
	6214	VSE/DITTO+OPT SOURCE 5746-UT3		
	6216	SORT/MERGE 5746-SM2 9/1600 MT		
	6228	PL/1 OPT/LIBS 5736-PL3 9/1600		
	6244	VSE/FASTCOPY 5746-AM4 9/1600		
	BASE CONTENT			
		5745-030 DOS/VSE		
		5746-XE8 VSE/ADV FUNCTIONS		
		5746-SA1 VSE/IPCS		
		5746-TS1 VSE/ICCF		
		5746-XE3 VSE/POWER		
		5746-AM2 VSE/VSAM		
		5748-MS1 IPF		
		5746-XX3 CICS/VS		
		5746-RC7 ACF/VTAME		
		5747-CG2 ACF/VTAME SCP		
		4331 LPSC FOR CLASS 1 SCP	0	154
5745-030		DOS/VSE		
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-XE8		VSE/ADVANCED FUNCTIONS		
	4532	BASIC LICENSE	143	46
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-SA1		VSE/INTERACT PROBL CTL-DOS/VSE		
	4529	BASIC LICENSE	27	5
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-TS1		VSE/ICCF		
	4523	BASIC LICENSE	73	22
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-XE3		VSE/POWER		
	4529	BASIC LICENSE	44	13
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-AM2		VSE/VSAM		
	4519	BASIC LICENSE	42	10
	9407	SIPO/E REGISTRATION 9/1600 MT		
5748-MS1		INTERACTIVE PRODUCTIVITY FAC		
	4505	BASIC LICENSE	33	5
	9407	SIPO/E REGISTRATION 9/1600 MT		

PROGRAM	FEAT	DESCRIPTION	MONTHLY CHARGE	MLPSC
5746-XX3		CICS/DOS/VS		
	4537	BASIC LICENSE	357	116
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-RC7		ACF/VTAME FOR DOS/VSE		
	4517	BASIC LICENSE	114	61
	9403	SIPO/E REGISTRATION 9/1600 MT		
5747-UG2		VTAM SCP FOR ACF/VTAME-DOS/VSE		
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-UT3		VSE/DITTO		
	4525	BASIC LICENSE	51	5
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-SM2		DOS/VS SORT MERGE		
	4521	BASIC LICENSE	126	16
	9403	SIPO/E REGISTRATION 9/1600 MT		
5736-PL3		DOS PL/1 OPT COMPILER+LIBRARY		
	4505	BASIC LICENSE	261	41
	9403	SIPO/E REGISTRATION 9/1600 MT		
5746-AM4		VSE/FASTCOPY	363	
	9403	SIPO/E REGISTRATION 9/1600 MT		
		SOFTWARE TOTALS	1271*	504*
		SINGLE USE CHARGE TOTAL	1634.00*	

THE PRICES REFLECT ALL ANNOUNCED PRICE CHANGES THAT BECOME EFFECTIVE ON OR BEFORE APRIL 1, 1981 FOR PROGRAM PRODUCTS.

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